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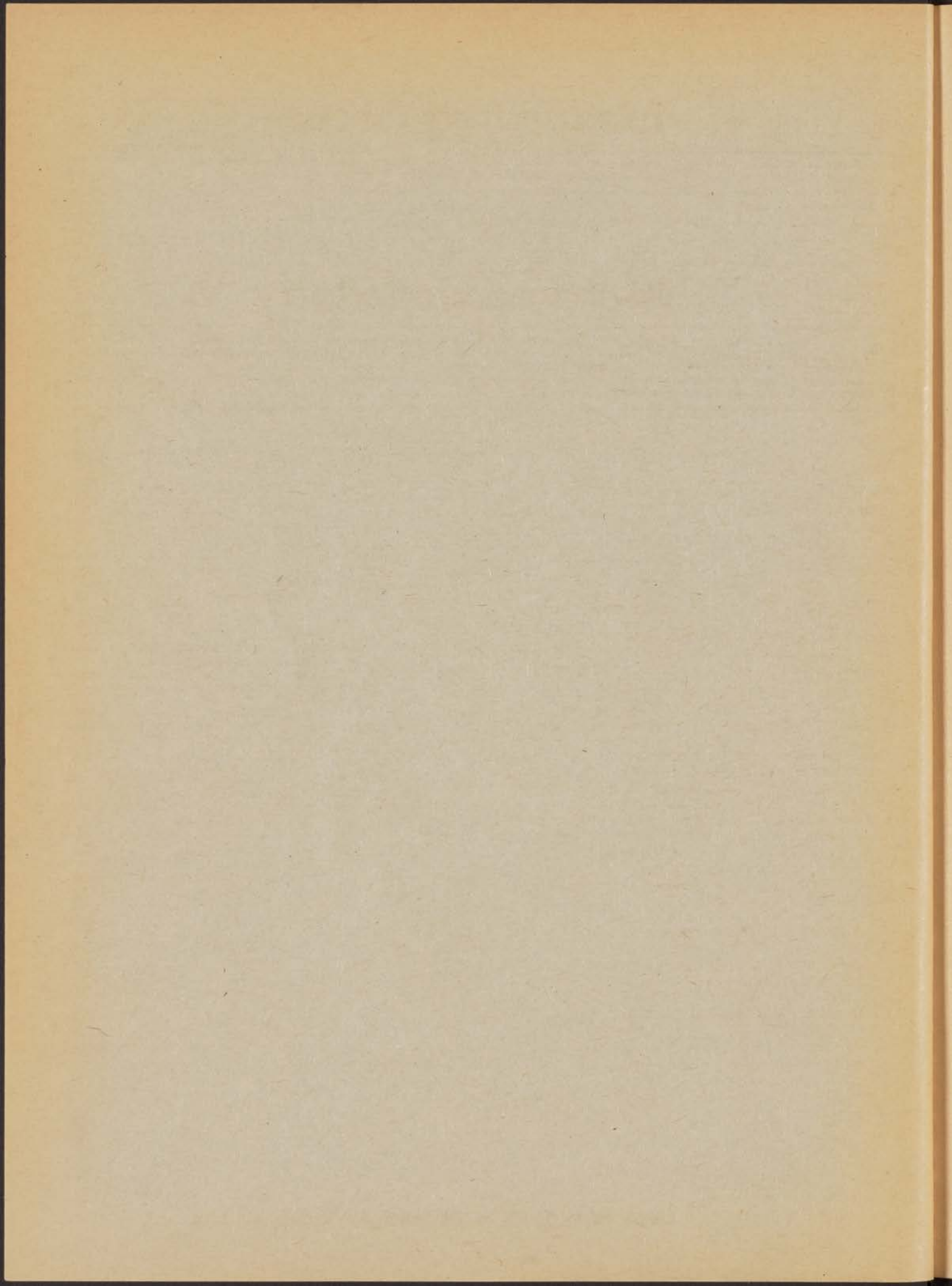
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See Federal Aviation Administration; Federal Highway Administration; Hazardous Materials Regulation Board.

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This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each month.

Title 20—Employees' Benefits

CHAPTER III—SOCIAL SECURITY ADMINISTRATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

[Regulations No. 5, further amended]

PART 405—FEDERAL HEALTH INSURANCE FOR THE AGED AND DISABLED

Subpart D—Principles of Reimbursement for Provider Costs and for Services by Hospital-Based Physicians; Appeals by Providers

LIMITATIONS ON COVERAGE OF COSTS UNDER MEDICARE

Correction

In FR Doc. 74-12867 appearing at page 20164 in the issue for Thursday, June 6, 1974, in § 405.461(b)(3)(i) on page 20166, the word "Producer," should read "Provider's".

Title 7—Agriculture

CHAPTER XVII—RURAL ELECTRIFICATION ADMINISTRATION PART 1701—PUBLIC INFORMATION

Appendix A—REA Bulletins

Part 1701, Title 7, is hereby amended to include revisions to the Appendix A listing and summary descriptions of REA Bulletins providing the program policies, procedures, and requirements of the Agency. In major part, they reflect revised REA Bulletins issued after prior publication in the FEDERAL REGISTER to secure public comment and participation under proposed rulemaking procedures. Where comments or suggestions were received on the revised REA Bulletins included in this update of Appendix A, they have been incorporated in the bulletins as issued, with two exceptions. The exceptions involved comments received on the proposed revision of REA Bulletin 20-21:320-21, National Environmental Policy Act. One commentator requested that REA be responsible for publishing environmental notices in local newspapers, and another requested that the newspaper or newspapers selected for publication of environmental notices should not simply

be a newspaper of general circulation in the county or counties in which the construction is located and in which the applicant's headquarters is located, but should be published in the county or counties as well. After careful consideration of these requests, REA found it necessary to reaffirm: (1) That it is preferable to have the REA borrower, whose management is familiar with local conditions, responsible for publish-

ing environmental notices in local newspapers rather than REA; and (2) that publishing the notices in a newspaper or newspapers of general circulation in the counties involved is adequate to ensure that the public is informed on the matter.

The following revised listings and summary descriptions of REA bulletins are replacements and deletions, as specified, of listings in Appendix A to Part 1701 (36 FR 19075).

APPENDIX A—REA BULLETINS

JOINT RURAL ELECTRIFICATION AND TELEPHONE PROGRAM BULLETINS

REA bulletin number and date of last issuance	Description of content
20-21:320-21; May 1974 (replacing June 1971).	Policy and procedure concerning the implementation of the National Environmental Policy Act as it relates to the REA program.

RURAL ELECTRIFICATION PROGRAM BULLETINS

40-7; October 1973 (replacing January 1962).	The National Electrical Safety Code and REA construction requirements with respect thereto.
61-3; June 1967 (deletion)-----	Remove from appendix A. April 1974 revision removed this bulletin from rulemaking category.
100-4; May 1974 (replacing April 1972).	The policy of REA with respect to corrective action to be taken by borrowers where problems may endanger the effective operation of their systems and the security of REA loans.
105-5; November 1973 (replacing July 1971).	Guidelines for the preparation of long-range financial forecasts by electric distribution borrowers.
120-1; March 1974 (replacing October 1970).	The policy and procedure of REA with respect to the development, approval, and use of power requirement studies.

RURAL TELEPHONE PROGRAM BULLETINS

345-13; April 1974 (replacing July 1971).	Specification of REA for telephone cable for aerial and underground duct applications.
345-23; October 1973 (replacing January 1967).	Specification of REA for building-out capacitors.
345-27; February 1974 (replacing February 1963).	Specification of REA for D-66/H88 junction impedance compensators.
345-55; December 1973 (replacing April 1969).	Specification of REA for central office loop extenders and loop extender voice frequency repeater combinations.
381-2; April 1974 (replacing October 1970).	Information regarding Telephone System Construction Contract (Labor and Materials) REA Form 511.
383-2; March 1968 (deletion)-----	Remove from appendix A. Bulletin canceled as obsolete.
384-3; October 1973 (replaces February 1967).	The procedure of REA for the use of central office equipment contracts and specifications for telephone borrowers.

Dated: June 17, 1974.

[FR Doc. 74-14343 Filed 6-21-74; 8:45 am]

DAVID A. HAMIL,
Administrator.

Title 14—Aeronautics and Space
CHAPTER I—FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Airspace Docket No. 74-EA-38]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE AND REPORTING POINTS

Alteration of Control Zone and Transition Area

The Federal Aviation Administration is amending §§ 71.171 and 71.181 of Part 71 of the Federal Aviation Regulations so as to alter the Calverton, N.Y., Control Zone (39 FR 365) and Transition Area (39 FR 463).

A review of the airspace requirements for the Peconic River Plant (Grumman) Airport, Calverton, N.Y., indicates that we will require minor alterations of the control zone and 700 foot floor transition area to provide controlled airspace for IFR departures and IFR arrivals in consonance with Terminal Instrument Procedures (TERPs). The rule will also change the name of the airport in the airspace description.

In view of the fact that the changes are of a minor and editorial nature, notice and public procedure hereon are unnecessary.

In view of the foregoing, Part 71 of the Federal Aviation Regulations is amended, effective 0901 G.m.t. August 15, 1974, as follows:

1. Amend § 71.171 of Part 71, so as to delete the description of the Calverton, N.Y. Control Zone and by substituting the following in lieu thereof:

CALVERTON, N.Y.

Within a 5-mile radius of Peconic River Plant (Grumman) Airport, Calverton, N.Y. This control zone shall be effective from 0800 hours local time to sunset, Monday through Saturday.

2. Amend § 71.171 of Part 71, so as to alter the description of the Calverton, N.Y. 700 foot floor transition area by deleting, "8-mile radius of Peconic Airport" and by substituting therefor, "8.5 mile radius of Peconic River Plant (Grumman) Airport."

(Sec. 307(a), Federal Aviation Act of 1958 (72 Stat. 749; 49 U.S.C. 1348); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)))

Issued in Jamaica, N.Y., on June 3, 1974.

JAMES BISPO,
Deputy Director, Eastern Region.

[FR Doc.74-14369 Filed 6-21-74; 8:45 am]

[Airspace Docket No. 74-SW-17]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE, AND REPORTING POINTS

Alteration of Transition Area

The purpose of this amendment to Part 71 of the Federal Aviation Regulations is to alter the Stephenville, Tex., transition area.

On April 26, 1974, a notice of proposed rulemaking was published in the *FEDERAL REGISTER* (39 FR 14727) stating the Federal Aviation Administration proposed to alter the Stephenville, Tex., 700-foot transition area.

Interested persons were afforded an opportunity to participate in the rule-making through submission of comments. All comments received were favorable.

In consideration of the foregoing, Part 71 of the Federal Aviation Regulations is amended, effective 0901 G.m.t., August 15, 1974, as hereinafter set forth.

In § 71.181 (39 FR 440), the Stephenville, Tex., transition area is amended to read:

STEPHENVILLE, TEX.

That airspace extending upward from 700 feet AGL within a 5-mile radius of Clark Field, Tex. (latitude 32°13'00" N., longitude 98°10'42" W.); within 3 miles each side of the Acton, Tex., VORTAC 244° radial extending from the 5-mile radius area to 37 ing from the 5-mile radius area to 27 miles from the VORTAC; and within 3 miles each side of the 139° bearing from the Stephenville, Tex., RBN (latitude 32°13'00" N., longitude 98°10'42" W.) extending from the 5-mile radius area to 8 miles southeast of the RBN.

(Sec. 307(a), Federal Aviation Act of 1958 (49 U.S.C. 1348); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)))

Issued in Fort Worth, Tex., on June 4, 1974.

ALBERT H. THURBURN,
*Acting Director,
 Southwest Region.*

[FR Doc.74-14370 Filed 6-21-74; 8:45 am]

[Airspace Docket No. 74-EA-39]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE AND REPORTING POINTS

Alteration of Transition Area

The Federal Aviation Administration is amending § 71.181 of Part 71 of the Federal Aviation Regulations so as to alter the Red Hook, N.Y., Transition Area (39 FR 575).

The prescribed VOR Rwy 1 instrument approach procedure for Skypark Airport, Red Hook, N.Y., has been revised and requires alteration of the transition area.

Since the amended description encompasses a smaller transition area, the amendment is less restrictive and therefore notice and public procedure thereon are unnecessary.

In view of the foregoing, Part 71 of the Federal Aviation Regulations is amended, effective June 24, 1974.

1. Amend § 71.181 of Part 71 of the Federal Aviation Regulations by deleting the description of the Red Hook, N.Y. transition area and by substituting the following in lieu thereof:

That airspace extending upward from 700 feet above the surface within a 9-mile radius of the center 41°59'12" N., 73°50'12" W., of Skypark Airport, extending clockwise from a 012° bearing to a 130° bearing from the airport; within an 8-mile radius of the center of the airport, extending clockwise from a

130° bearing to a 168° bearing from the airport; within a 6.5-mile radius of the center of the airport, extending clockwise from a 168° bearing to a 232° bearing from the airport; within a 5-mile radius of the center of the airport, extending clockwise from a 232° bearing to a 309° bearing from the airport; within a 5.5-mile radius of the center of the airport, extending clockwise from a 309° bearing to a 012° bearing from the airport and within 3 miles each side of the Kingston, N.Y. VORTAC 358° radial, extending from the 8-mile radius area and 6.5-mile radius area to 10.5 miles north of the Kingston, N.Y. VORTAC.

(Sec. 307(a), Federal Aviation Act of 1958 (72 Stat. 749; 49 U.S.C. 1348); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)))

Issued in Jamaica, N.Y., on June 4, 1974.

JAMES BISPO,
*Deputy Director,
 Eastern Region.*

[FR Doc.74-14368 Filed 6-21-74; 8:45 am]

CHAPTER II—CIVIL AERONAUTICS BOARD

SUBCHAPTER B—PROCEDURAL REGULATIONS

[Reg. PR-139, Amdt. 21]

PART 302—RULES OF PRACTICE IN ECONOMIC PROCEEDINGS

Provisions for Transcripts of Hearings

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., June 18, 1974.

By OR-84, issued contemporaneously herewith, the Board has adopted rules reflecting the changes in its arrangements with respect to transcripts of proceedings, in general. For the reasons there set forth, we are also amending the provisions in our Rules of Practice relating to transcripts of hearings, in particular.

Since this regulation is a rule of agency organization and practice, the Board finds that notice and public procedure hereon are unnecessary and that it may become effective immediately.

Accordingly, the Civil Aeronautics Board hereby amends Part 302 of its procedural regulations (14 CFR Part 302) effective June 18, 1974, as follows:

Amend § 302.24 to read as follows:

§ 302.24 Hearings.

(k) *Transcripts of hearings.* (1) Hearings shall be recorded and transcribed, under supervision of the administrative law judge, by the reporting firm with which the Board currently has a contract, pursuant to section 11 of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. App. I). Copies of the transcript shall be supplied to the parties to the proceeding by said reporting firm, at the contract price for copies.

(2) The administrative law judge shall determine whether "ordinary transcript" or "daily transcript" (as those terms are defined in the contract) will be necessary and required for the proper conduct of the proceeding and the Board will pay

the reporting firm the full cost of reporting its proceedings at the contract price for such type of transcript. If the administrative law judge has determined that ordinary transcript is adequate, and has notified the parties of such determination (in the notice of hearings, or otherwise), then any party may request reconsideration of such determination and that daily transcript be required. In determining what is necessary and required for the proper conduct of the proceeding, the administrative law judge shall consider, among other things: (i) The nature of the proceeding itself; (ii) the Board's needs as well as the reasonable needs of the parties; and (iii) the requirements of a fair hearing.

(3) If the administrative law judge has determined that ordinary transcript is adequate, or, upon reconsideration, has adhered to such determination, then any party may request the reporting firm to provide daily transcript. In that case, pursuant to its contract with the Board, the reporting firm will be obligated to furnish to the Board daily transcript upon the agreement by the requesting party to pay to the reporting firm an amount equal to the difference between the contract prices for ordinary transcript and daily transcript, provided that the requesting party makes such agreement with the reporting firm at least twenty-four (24) hours in advance of the date for which such transcript is requested.

(4) Any party may obtain from the Director, Office of Facilities and Operations, the name and address of the private reporting company with which the Board currently has a contract for transcripts and copies, as well as the contract prices then in effect for such services.

(5) Copies of transcripts ordered by parties other than the Board shall be prepared for delivery to the requesting person at the reporting firm's place of business, within the stated time for the type of transcript ordered. The requesting party and the reporting firm may agree upon some other form or means of delivery (mail, messenger, etc.) and the reporting firm may charge for such special service, provided that such charge shall not exceed the reasonable cost of such service.

(Sec. 204(a), Federal Aviation Act of 1958, as amended, 72 Stat. 743 (49 U.S.C. 1324); Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. App. I)

Effective: June 18, 1974.

Adopted: June 18, 1974.

By the Civil Aeronautics Board.

[SEAL] EDWIN Z. HOLLAND,
Secretary.

[FR Doc. 74-14398 Filed 6-21-74; 8:45 am]

SUBCHAPTER E—ORGANIZATION REGULATIONS [Reg. OR-84, Amdt. 17]

PART 389—FEES AND CHARGES FOR SPECIAL SERVICES

Charges for Transcripts of Proceedings

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., June 18, 1974.

Prior to the enactment of section 11 of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. App. I) the Board, like many agencies, had followed a practice on transcripts, under which a private reporting company would furnish transcripts to the agency, without charge, and derive its revenues solely from the sale of transcript copies to private parties and other interested persons. Under that statute, however, Federal agencies have been required to pay for transcripts of their proceedings, and transcript copies must be made available "to any person, at actual cost of duplication."

The purpose of this amendment is to reflect the new arrangements which the Board has made with respect to transcripts of its proceedings, in implementation of the statutory directive. The arrangements are set forth, and will continue to be set forth, in such contract as the Board has made with a private reporting firm and include specified prices for "daily transcripts" and "ordinary transcripts," as well as a price for copies of transcript which has been agreed upon as representing the "actual costs of duplication," as those terms are defined in said contract.

Since this regulation is a rule of agency organization and practice, the Board finds that notice and public procedure hereon are unnecessary and that it may become effective immediately.

In consideration of the foregoing, the Civil Aeronautics Board hereby amends Part 389 of the organization regulations (14 CFR Part 389) effective June 18, 1974, as follows:

1. Section 389.17 is revised to read as follows:

§ 389.17 Transcripts of proceedings.

Transcripts of testimony and oral argument are furnished to the Board by a non-Government contractor for any proceeding in which the presiding officer has determined that such transcript should be made, and copies thereof may be purchased directly from the reporting firm, at prices and upon other terms and conditions specified in the contract made between the Board and the reporting firm, and currently in effect, pursuant to section 11 of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. App. I). Any person may obtain from the Director, Office of Facilities and Operations, the name and address of the reporting firm with which the Board currently has such contract, as well as the contract prices then in effect for the various types of transcript and copying services covered by such contract.

(Sec. 204(a), Federal Aviation Act of 1958, as amended, 72 Stat. 743; 49 U.S.C. 1324; Pub. L. 92-463, 86 Stat. 770, 5 U.S.C. App. I)

Effective: June 18, 1974.

Adopted: June 18, 1974.

By the Civil Aeronautics Board.

[SEAL] EDWIN Z. HOLLAND,
Secretary.

[FR Doc. 74-14397 Filed 6-21-74; 8:45 am]

Title 18—Conservation of Power and Water Resources

CHAPTER I—FEDERAL POWER COMMISSION

[Docket No. R-424—Order No. 505]

SUBCHAPTER C—ACCOUNTS, FEDERAL POWER ACT

UNIFORM SYSTEM OF ACCOUNTS AND ANNUAL REPORT FORMS NO. 1 AND NO. 2

Accumulated Deferred Investment Tax Credit; Correction

MAY 29, 1974.

The following corrections are made to FR Doc. 74-3742 issued February 11, 1974, and published at 39 FR 6093, on February 19, 1974:

PART 101—UNIFORM SYSTEM OF ACCOUNTS PRESCRIBED FOR CLASS A AND CLASS B PUBLIC UTILITIES AND LICENSEES

1. Paragraphs A. and B. of Account 255 (39 FR 6096) are revised to read as follows.

255 Accumulated deferred investment tax credits.

A. This account shall be credited with all investment tax credits deferred by companies which have elected to follow deferral accounting, partial or full, rather than recognizing in the income statement the total benefits of the tax credit as realized. After such election, a company may not transfer amounts from this account, except as authorized herein and in accounts 411.4, Investment Tax Credit Adjustments, Utility Operations, 411.5, Investment Tax Credit Adjustments, Nonutility Operations, and 420, Investment Tax Credits, or with approval of the Commission.

B. Where the company's accounting provides that investment tax credits are to be passed on to customers, this account shall be debited and account 411.4 credited with a proportionate amount determined in relation to the average useful life of electric utility property to which the tax credits relate or such lesser period of time as allowed by a regulatory agency having rate jurisdiction. If, however, the deferral procedure provides that investment tax credits are not to be passed on to customers, the proportionate restorations to income shall be credited to account 420.

PART 104—UNIFORM SYSTEM OF ACCOUNTS FOR CLASS C PUBLIC UTILITIES AND LICENSEES

2. Paragraphs A. and B. of Account 255 (39 FR 6099) are revised to read as follow.

255 Accumulated deferred investment tax credits.

A. This account shall be credited with all investment tax credits deferred by companies which have elected to follow deferral accounting, partial or full, rather than recognizing in the income statement the total benefits of the tax credit as realized. After such election,

a company may not transfer amounts from this account, except as authorized herein and in accounts 411.4, Investment Tax Credit Adjustments, Utility Operations, 411.5, Investment Tax Credit Adjustments, Nonutility Operations, and 420, Investment Tax Credits, or with approval of the Commission.

B. Where the company's accounting provides that investment tax credits are to be passed on to customers, this account shall be debited and account 411.4 credited with a proportionate amount determined in relation to the average useful life of electric utility property to which the tax credits relate or such lesser period of time as allowed by a regulatory agency having rate jurisdiction. If, however, the deferral procedure provides that investment tax credits are not to be passed on to customers, the proportionate restoration to income shall be credited to account 420.

PART 201—UNIFORM SYSTEM OF ACCOUNTS PRESCRIBED FOR CLASS A AND CLASS B NATURAL GAS COMPANIES

3. Paragraphs A. and B. of Account 255 (39 FR 6102) are revised to read as follows.

255 Accumulated deferred investment tax credits.

A. This account shall be credited with all investment tax credits deferred by companies which have elected to follow deferral accounting, partial or full, rather than recognizing in the income statement the total benefits of the tax credit as realized. After such election, a company may not transfer amounts from this account, except as authorized herein and in accounts 411.4, Investment Tax Credit Adjustments, Utility Operations, 411.5, Investment Tax Credit Adjustments, Nonutility Operations, and 420, Investment Tax Credits, or with approval of the Commission.

B. Where the company's accounting provides that investment tax credits are to be passed on to customers, this account shall be debited and account 411.4 credited with a proportionate amount determined in relation to the average useful life of electric utility property to which the tax credits relate or such lesser period of time as allowed by a regulatory agency having rate jurisdiction. If, however, the deferral procedure provides that investment tax credits are not to be passed on to customers the proportionate restorations to income shall be credited to account 420.

PART 204—UNIFORM SYSTEM OF ACCOUNTS PRESCRIBED FOR CLASS C AND CLASS D NATURAL GAS COMPANIES

4. Paragraphs A. and B. of Account 255 (39 FR 6105) are revised to read as follows:

255 Accumulated deferred investment tax credits.

A. This account shall be credited with all investment tax credits deferred by

companies which have elected to follow deferral accounting, partial or full, rather than recognizing in the income statement the total benefits of the tax credit as realized. After such election, a company may not transfer amounts from this account, except as authorized herein and in accounts 411.4, Investment Tax Credit Adjustments, Utility Operations, 411.5, Investment Tax Credit Adjustments, Nonutility Operations, and 420, Investment Tax Credits, or with approval of the Commission.

B. Where the company's accounting provides that investment tax credits are to be passed on to customers, this account shall be debited and account 411.4 credited with a proportionate amount determined in relation to the average useful life of electric utility property to which the tax credits relate or such lesser period of time as allowed by a regulatory agency having rate jurisdiction. If, however, the deferral procedure provides that investment tax credits are not to be passed on to customers, the proportionate restorations to income shall be credited to account 420.

KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-13417 Filed 6-21-74; 8:45 am]

Title 23—Highways

CHAPTER I—FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

SUBCHAPTER G—ENGINEERING AND TRAFFIC OPERATIONS

PART 633—REQUIRED CONTRACT PROVISIONS

Subpart B—[Reserved]

Subpart C—Direct Federal Construction Contracts

Policy and Procedure Memorandum 40-5, which has for many years contained the FHWA-required contract provisions for Federal projects, has been incorporated in the Federal-Aid Highway Program Manual. Portions of the Manual addition are hereby published.

General notice of proposed rulemaking is not required inasmuch as the material published relates to benefits or contracts pursuant to 5 U.S.C. 553(a)(2). The regulations will become effective on the date of issuance set forth below.

Issued on June 14, 1974.

NORBERT T. TIEMANN,
Federal Highway Administrator.

Part 633 is added consisting at this time of Subpart C; Subpart B is reserved.

PART 633—REQUIRED CONTRACT PROVISIONS

Subpart B—[Reserved]

Subpart C—Direct Federal Construction Contracts

Sec.

633.301 Purpose.

633.302 Applicability.

Appendix A Continuation of Standard Form 19-A Labor Standards Provisions

AUTHORITY: 23 U.S.C. 315; 49 CFR 1.48(b) (35).

Subpart B—[Reserved]

Subpart C—Direct Federal Construction Contracts

§ 633.301 Purpose.

To prescribe for direct Federal highway construction contracts, provisions covering employment, safety, specific equal employment opportunity responsibilities and false statements concerning highway projects.

§ 633.302 Applicability.

(a) The form "Continuation of Standard Form 19-A, Labor Standards Provisions" (Appendix A) shall be made a part of all highway construction contracts under the direct supervision of the Federal Highway Administration. The form shall be incorporated in each highway construction contract as a continuation of Standard Form 19-A, Labor Standards Provisions and the clauses set forth in paragraph 7 of Appendix A shall be included in all subcontracts.

(b) Such additional labor standards provisions as hometown or imposed equal employment opportunity plans shall be added at the end of the form.

Effective date. The regulations in this subpart will take effect on June 14, 1974.

APPENDIX A

**CONTINUATION OF STANDARD FORM 19-A
LABOR STANDARDS PROVISIONS**

(DOT/FHWA 3-74)

1. Weekly statement

The contractor and each subcontractor shall furnish each week a statement with respect to the wages paid each of his employees engaged on work covered by the Copeland Act Regulations, 29 CFR, Part 3, and by 29 CFR, Part 5, during the preceding weekly payroll period. The statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages. The statement shall be on U.S. Department of Labor Form WH 348, "Statement of Compliance," or on an identical form on the back of U.S. Department of Labor Form WH 347, "Payroll (For Contractor's Optional Use)," or on any form with identical wording. Copies of these forms may be purchased from the Government Printing Office.

2. Employment practices

a. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payment, the contractor and each subcontractor shall make all necessary arrangements for them to be cashed and shall give information to their employees regarding such arrangements.

b. No fee of any kind shall be asked or accepted by the contractor, or any of his agents or subcontractors, from any person as a condition of employment on the project.

c. No laborers or mechanics shall be charged for any tools used in performing their duties unless prior permission to make payroll deductions for such charges has been granted by the Secretary of Labor in accordance with Section 3.6 of the Copeland Act Regulations.

d. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he

elects and neither the contractor, his subcontractors, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

e. No charge shall be made for any transportation furnished by the contractor, or his subcontractors to any person employed on the work.

f. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks, or other equipment from individuals.

g. Each employee's social security number must be shown on the first payroll on which his name appears.

3. Payment of excess wages

While the wage rates shown in the wage determination decision are the minimum hourly rates required by the contract to be paid during its life, it is the responsibility of bidders to inform themselves as to the local labor conditions, such as the length of workday and workweek, overtime compensation, health and welfare contributions, labor supply, and prospective changes or adjustment of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

4. Safety

It is a condition of this contract, and shall be made a condition of each subcontract entered into pursuant to this contract, that the contractor and any subcontractor shall not require any individual employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards (Title 29, Code of Federal Regulations, Part 1926, as revised from time to time) promulgated by the United States Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act.

5. False statements concerning highway projects

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the contractor shall post the Notice, Form PR-1022 on each Federal highway project in one or more places where it is readily available to all personnel concerned with the project.

6. Specific equal employment opportunity responsibilities

a. General

(1) Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in SF 23-A, General Provisions and in these Provisions. The requirements set forth in these Provisions shall constitute the specific affirmative action requirements for project activities under this contract and

supplement the equal employment opportunity requirements set forth in the General Provisions.

(2) The contractor will work with the Federal Government in carrying out equal employment opportunity obligations and in their review of his activities under the contract.

(3) The prime contractor, and all subcontractors (not including material suppliers), holding subcontracts of \$10,000 or more, will comply with the minimum equal employment opportunity requirements set forth in the balance of this clause 6.

b. Equal Employment Opportunity Policy

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training.

c. Equal Employment Opportunity Officer

The contractor will designate and make known to the contracting officer an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

d. Dissemination of Policy

(1) All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities. To insure that the above agreement will be met, the following actions will be taken as a minimum:

(a) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

(b) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.

(c) The EEO Officer or appropriate company official will instruct all employees engaged in the direct recruitment of employees for the project relative to the methods followed by the contractor in locating and hiring minority group employees.

(2) In order to make the contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officer, etc., the contractor will take the following actions:

(a) Notices and posters setting forth the contractor's equal employment opportunity

policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

(b) The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

e. Recruitment

(1) When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." He will insert all such advertisements in newspapers, or other publications, having a large circulation among minority groups in the area from which the project work force would normally be derived.

(2) The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority group organizations. To meet this requirement, the contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

(3) The contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

f. Personnel Actions

(1) Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, or national origin. The following procedures shall be followed:

(a) The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

(b) The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

(c) The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

(d) The contractor will investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation the contractor will inform every complainant of all of his avenues of appeal.

g. Training and Promotion

(1) The contractor will assist in locating, qualifying and increasing the skills of minority group employees and applicants, for employment.

(2) Consistent with his manpower requirements and as permissible under Federal and

State regulations, the contractor will make full use of training programs, i.e., preapprenticeship apprenticeship, and/or on-the-job training programs for the geographical area of contract performance.

(3) The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

(4) The contractor will periodically review the training and promotion potential of minority group employees and will encourage eligible employees to apply for such training and promotion.

h. *Unions.* If the contractor relies in whole or in part upon unions as a source of his work force, he will use his best efforts to obtain the cooperation of such unions to increase minority group opportunities within the unions, and to effect referrals by such unions of minority group employees. Actions by the contractor, either directly or through a contractor's association acting as his agent, will include the procedures set forth below:

(1) Use his best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members for membership in the unions and increasing the skills of minority group employees so that they may qualify for higher paying employment.

(2) Use his best efforts to incorporate an equal employment opportunity clause into all union agreements to the end that such unions will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

(3) In the event a union is unable to refer applicants as requested by the contractor within the time limit set forth in the union agreement, the contractor will, through his recruitment procedures, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified minority group persons.

i. Subcontracting

(1) The contractor will use his best efforts to utilize minority group subcontractors or subcontractors with meaningful minority group representation among their employees.

(2) The contractor will use his best efforts to assure subcontractor compliance with their equal employment opportunity obligations.

j. Records and Reports

(1) The contractor will keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:

(a) The number of minority and non-minority group members employed in each work classification on the project.

(b) The progress and efforts being made in cooperation with unions to increase minority group employment opportunities (applicable only to contractors who rely in whole or in part on unions, as a source of their work force).

(c) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority group employees.

(d) The progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority group representation among their employees.

(2) All such records must be retained for a period of three years following completion of the contract work and shall be available at reasonable times and places for inspection by the contracting officer or his authorized representative.

(3) The contractor will submit to the Federal Highway Administration a monthly re-

port for the first three months after construction begins, and thereafter upon request, for the duration of the project, indicating the number of minority and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR-1391.

7. Subcontracts

The contractor shall include, verbatim, clauses 1, 2, 4, 5 and 6 of this continuation sheet in each of his subcontracts, except that Clause 6 will not be required for subcontracts less than \$10,000. In addition, the contractor shall include a clause requiring each subcontractor to include these clauses in any lower tier subcontracts.

[FR Doc.74-14349 Filed 6-21-74;8:45 am]

Title 32—National Defense

CHAPTER VI—DEPARTMENT OF THE NAVY

SUBCHAPTER E—CLAIMS

PART 751—NAVY PERSONNEL CLAIMS

Miscellaneous Amendments

On November 6, 1973, Chapter XXI of the Manual of the Judge Advocate General was revised and the changes made thereto were promulgated within the naval service. Those revised portions of Chapter XXI having general applicability and legal effect warrant a revision of Part 751 of Chapter VI of Title 32 of the Code of Federal Regulations. Accordingly, effective June 21, 1974, Part 751 of Chapter VI of Title 32 of the Code of Federal Regulations is revised to read as follows:

1. The table of contents is amended by revising the heading of § 751.21 and by adding a new § 751.30 to read as follows:

Sec.	
751.21	Recovery action in transportation and storage losses.
751.30	Personnel claims adjudicating authorities.

AUTHORITY: 31 U.S.C. 240-243.

2. Paragraphs (h), (i), (j) (2) and (k) of § 751.3 are revised to read as follows:

§ 751.3 Claims payable.

(h) *Money deposited for safekeeping, transmittal, or other authorized disposition.* Claims for loss of personal funds which were accepted by naval personnel, military or civilian, acting with the authority of the commanding officer, for safekeeping, deposit, transmittal, or other authorized disposition, are payable where the funds were neither applied as directed by the owner nor returned to him.

(i) *Motor vehicles.* Motor vehicle claims are payable when not precluded by § 751.4(i).

(j) * * *

(2) Claims for loss of, or damage to, house trailers and their contents while on Government property and payable under paragraph (a) (3) of this section for loss of, or damage, to house trailers and their contents arising incident to shipment are payable under paragraph

(b) (1) of this section: *Provided, That,* when transported by other than the service member or an agent or agency of the Government, the carrier must have operating rights approved by the Interstate Commerce Commission if in interstate commerce, or under applicable State regulations when the shipment is within a single State.

(k) *Theft from the person of the claimant is reimbursable if it is established that the theft occurred by use of force, violence, or threat to do bodily harm, or by snatching or pickpocketing, and at the time of theft the claimant was either on a military installation, utilizing a recreational facility operated or sponsored by the Department of Defense or any agency thereof, or in the performance of official duty. The theft must have been reported to appropriate police authorities immediately, or as soon as practicable, and it must have been reasonable for the claimant to have had on his person the quality and the quantity of the property allegedly stolen.*

3. Section 751.4 (f), (i), (o), (r), and (r) (2) are revised to read as follows:

§ 751.4 Claims not payable.

(f) *Articles being worn.* Articles being worn, except under the circumstances described in § 751.3 (c), (d), (e), and (k) above.

(i) *Motor vehicles.* Motor vehicle claims for collision damage are not payable under this chapter, but may be paid by a military department under the Military Claims Act (Subpart C of Part 750 of this chapter) caused by a member of employee of that department.

(o) *Negligence of claimant.* Claims for lost or damaged personal property caused in whole or in part as a result of any negligence or wrongful act of the claimant, or any agent or employee of the claimant acting within the scope of employment. Negligence may be defined as failure to exercise that degree of care which a reasonable and prudent person would have exercised under the same or similar circumstances.

(r) *Theft.* In all cases where a claim is made for articles lost by theft, the claim is not payable unless evidence clearly establishes:

(2) The existence of a larceny, robbery, burglary, or housebreaking.

4. Section 751.8 (c), (d), (e), and (f) are revised to read as follows:

§ 751.8 Demand on carrier, contractor and/or insurer.

(c) *Nontemporary storage warehousemen.* Whenever property is damaged,

lost, or destroyed while being stored under a basic agreement between the Government and the warehouseman, the owner or claims investigating officer will file a written claim for reimbursement with the warehouseman in accordance with the terms of the applicable storage agreement.

(d) *Pack-and-crate contractors.* When loss or damage is the result of improper packing or crating, the claims-investigating officer will prepare and forward to the origin Navy Personal Property Office the fully documented claim against the packing-and-crating contractor including the following information:

(1) The applicable paragraph number of MILSTD 212 and a written explanation of the deficiency;

(2) When available, photographs of the damage and of the external shipping container;

(3) A statement describing the external condition of the shipping container, i.e., any evidence of rough handling;

(4) A statement indicating whether or not there is any evidence of water damage to the external shipping container;

(5) A statement indicating whether cartons, crates, etc. were properly packed in the external shipping container and whether sufficient stuffing was added to prevent shifting of articles or packages inside the box as required by MIL-STD 212.

The origin Navy Personal Property Office will file the claim with the contractor and pursue it to settlement. If the origin transportation office was a non-Navy activity, the claims investigating officer will pursue the claim against the pack-and-crate contractor.

(e) *Insurer.* Whenever the property which is damaged, lost or destroyed incident to the claimant's service is insured in whole or in part, the claimant must make demand in writing against the insurer for reimbursement under the terms and conditions of the insurance coverage. Such demand should be made within the time limit provided in the policy and prior to the filing of the concurrent claim against the Government as provided in § 751.9.

(f) *Failure to make demand on carrier, contractor, or insurer.* Failure to make demand or cooperate in preparing the Navy's demand on a carrier, contractor, or insurer, or to make all reasonable efforts to collect the amount recoverable from the carrier, contractor, or insurer, may result in reducing the amount recoverable from the Government by the maximum amount which would have been recoverable from the carrier, contractor, or insurer, had the claim been timely made or diligently prosecuted. However, no deduction will be made where the circumstances of the claimant's service preclude seasonable filing and prosecution of a claim or the evidence indicates that a demand was impracticable or would have been unavailing.

5. Section 751.16(a) is revised to read as follows:

§ 751.16 Form of claim.

(a) The claim will be submitted by presenting a detailed statement in triplicate, signed by or on behalf of the claimant, on DD Form 1842 (see Appendix section A-21-c)¹ with DD Form 1845 attached (see Appendix section A-21-d).¹ If the claims investigating officer desires a copy of the adjudicated claim returned to his office for use in adjusting recoveries later received from carriers, contractors or insurers, a fourth copy of the claims form clearly marked for this purpose must be included. If DD Forms 1842 and 1845 are not available, any writing will be accepted and considered if it asserts a demand for a specific sum and substantially describes the facts necessary to support a claim cognizable under these regulations. Attention is directed to the following section which outlines the specific evidence required for particular classes of claims. Careful compliance with these requirements by the claimant in the preparation of his claim will substantially expedite adjudication, thus avoiding delays occasioned by the need of the adjudicating authority to obtain additional evidence from the claimant.

6. Section 751.21(f) is revised to read as follows:

§ 751.21 Recovery action in transportation and storage losses.

(f) *Unjustified denials by the carrier, contractor or insurer.*—(1) *Government bill of lading carriers.*—(i) *Action by the claims investigating officer.* If a Government bill-of-lading carrier or its insurer has refused to acknowledge or respond to a claim within a reasonable time (normally 30 days if applicable regulations or agreements do not specify another time limit), if the claims investigating officer considers a valid claim to have been denied or no adequate settlement offered, or if there has been a delay in settlement of a claim beyond 120 days, then, in addition to initiation of administrative action as appropriate under Interstate Commerce Commission Regulations, military tender of service, or other applicable regulation or agreement, the matter shall be referred to the adjudicating authority who paid the claim. The referral shall contain a statement of the facts, copies of pertinent correspondence and documents, and the claims investigating officer's opinion as to liability. A copy of the referral letter with enclosures will be sent to the origin-transportation officer. The carrier should be notified of this action by a copy of the referral or by separate correspondence.

(ii) *Action by the adjudicating authority.* The adjudicating authority shall review the entire file and shall make a final demand on the carrier when liability is clear. The final demand shall set forth the exact amount of liability, in view of the supporting evidence,

¹ Filed as part of original document.

owed by the carrier under the terms of the Government bill of lading, the basis for the determination of the amount demanded, and notification that the demand is a final demand and that the file will be forwarded for involuntary collection by withholding amounts due from the Navy if payment is not received within 30 days. If, after 30 days from the date of the final demand, reimbursement from the carrier has not been received, the case file should be forwarded to the Navy Regional Finance Center, Code FF20, Washington, D.C. 20371, requesting that the amount demanded by the final demand be set off against subsequent Government bill of lading earnings. The amount of withholding requested must be the amount of the final demand. If the amount of the final demand is in error, a new 30-day final demand must be made. In general, a carrier should not be permitted to continue negotiations after a final demand has been made. If a misunderstanding between the claims investigating officer and the carrier is obvious from the file, negotiation prior to a final demand may be desirable. Under normal circumstances, however, if the claims investigating officer and the carrier have been unable to reach agreement, a final-demand amount should be determined and a final demand made. The carrier should not be permitted to further delay payment of his legal liability by meaningless negotiation.

(2) *Nontemporary storage warehousemen.*—(i) *Action by the claims investigating officer.* If a nontemporary warehouseman or his insurer has refused to acknowledge or respond to a claim within a reasonable time, if the claims investigating officer considered a valid claim. The referral shall contain a statement of the facts, copies of pertinent correspondence and documents, and the claims investigating officer's opinion as to liability. The warehouseman should be notified of this action by a copy of the referral letter or by separate correspondence.

(ii) *Action by the adjudicating authority.* The adjudicating authority shall review the entire file and shall make a further demand on the warehouseman or his insurer when liability seems clear. If recovery is not effected within 30 days from this demand, or negotiations likely to result in an adequate recovery are not underway at that time, the file will be forwarded to the appropriate area Military Traffic Management and Terminal Service (MTMTS) Headquarters for a final determination of liability by the officer administering the warehouseman's basic agreement.

(3) *Pack - and - crate contractors.* When the origin-Navy-personnel-property office, or the destination claims investigating officer on a shipment originating at a non-Navy transportation office fails to receive adequate response

or recovery from a pack-and-crate contractor within 60 days or when a claim is denied by the contractor without sufficient justification, the matter should be referred immediately to the officer administering the contract under which the services were performed. In the case of a shipment originating at a non-Navy transportation office, the referral should be made via the origin transportation office. Each referral will include a full statement, with supporting evidence, substantiating that the contractor's denial of the claim is unjustified or that the settlement offer is inadequate. Due to the relatively short duration of pack-and-crate contracts, it is desirable to expedite processing of unjustified denials.

(4) *Other carriers, contractors, or insurers.* Unjustified denial by other carriers, contractors or insurers will be referred by the claims investigating officer to the adjudicating authority. The adjudicating authority will review the entire file and shall make a further demand on the carrier, contractor, or insurer when liability seems clear. If recovery is not received within 30 days from the date of this demand, or negotiations likely to result in an adequate recovery are not underway at that time, the file will be forwarded to the Judge Advocate General for additional recovery action.

7. Section 751.22(b) is revised to read as follows:

§ 751.22 Preparation of claims investigating officer's report.

(b) *Regular claims procedure.* The claims investigating officer's report shall include a statement of all additional facts and circumstances not pointed out by the claimant, including any facts overlooked or incorrectly stated by the claimant in his statement of the facts and circumstances of the incident, and specific recommendations regarding any items for which reimbursement in an amount less than the full amount claimed, less normal depreciation, if applicable, is recommended due to preexisting damage, inflated estimates of repair, economically repairable property claimed as beyond repair, salvage value of property, or other factors. Specific recommendations shall also include designation of those repair and replacement costs for which written estimates have been waived in accordance with § 751.17 (b) and an explanation of any unusual circumstances justifying nonroutine processing of the claim. Any convenient format can be used for the written report as long as all relevant information is included. Appendix section A-21-g¹ shows a sample report. The claims investigating officer will complete and sign part III of DD Form 1842 (see Appendix section A-21c(2))¹ when investigation of the claim is complete. Report control

¹ Filed as part of the original document.

symbol JAG 5890-2 is assigned to this report.

8. Section 751.24 (a), (d), and (g) are revised to read as follows:

§ 751.24 Adjudicating authority.

(a) *Claims by Navy personnel.* The following persons are authorized to adjudicate and authorize payment of personnel claims up to \$10,000.00:

- (1) The Judge Advocate General
- (2) The Deputy Judge Advocate General
- (3) Any Assistant Judge Advocate General
- (4) The Deputy Assistant Judge Advocate General (Litigation and Claims)
- (5) Director, Litigation and Claims Division
- (6) Head, Personnel Claims Branch, Litigation and Claims Division
- (7) Head, Operational Claims and Litigation Branch
- (8) Commandants of Naval Districts and their Staff Judge Advocates
- (9) Officers in Charge of the Naval Legal Service Offices and Staff Judge Advocates attached to Naval Legal Service Offices when designated by the office in charge.
- (10) Naval Supply Center, Oakland, California Staff Judge Advocate (\$5,000)
- (11) Other Navy Judge Advocates when designated by the Judge Advocate General

In addition to the above, all Navy judge advocates are hereby designated and authorized to adjudicate and authorize payment of claims up to \$1,000 filed under this part. Any naval officer, when personally designated by the Judge Advocate General, is authorized to adjudicate and authorize payment of claims up to \$500 filed under this part. Exercise of adjudicating authority is conditioned upon receipt of funding authority and accounting data from the Judge Advocate General, Washington, D.C. 20370. Appendix A-21-i¹ lists those commands currently authorized to adjudicate personnel claims.

(d) *Partial payments when hardship exists.* Every instance of loss or damage cognizable under this chapter can be expected to cause some degrees of inconvenience to the claimant and/or his

¹ Filed as part of original document.

family. When the magnitude of the loss or damage is such that the claimant needs funds to feed, clothe or house himself or his family properly, the adjudicating authority may authorize a partial payment of an appropriate amount, normally one-half of the estimated total payment. Each authorization of partial payment must be accompanied by:

(g) *Reports.* Commands adjudicating personnel claims shall forward backlog reports to the Judge Advocate General on the last day of any calendar month when the number of personnel claims pending adjudication on that date exceeds one-third of the number of claims adjudicated during the reporting month. The report will contain the number and dollar amount of claims received for adjudication during the month, the number and dollar value of claims allowed, the number of claims denied, the number of claims forwarded to a higher authority for adjudication, and the number of claims pending as of the reporting date. The report should contain relevant information relating to the cause for the backlog of claims pending adjudication. This report is in addition to normal accounting reports required to control claims allotments. Adjudicating authorities will maintain in their files data for the current and preceding fiscal year. Report Control Symbol JAC 5890-5 is assigned to this report.

9. Section 751.28(b) is revised to read as follows:

§ 751.28 Reconsideration.

(b) If an adjudicating authority does not grant the relief requested, or otherwise resolve the claim to the satisfaction of the claimant, the request for reconsideration shall be forwarded, together with the entire file and the adjudicating authority's recommendation, to the nearest appropriate \$10,000 authority for final disposition. Final reconsideration of claims originally adjudicated by adjudicating authorities authorized to pay claims up to \$10,000 will be made by the Judge Advocate General.

10. Add new § 751.30 to read as follows:

§ 751.30 Personnel claims adjudicating authorities.

\$10,000 authority ¹	Geographical area ¹	\$1,000 authority
COMNAVISTWASH.....	NDW plus Maryland.....	
COMONE.....	1 ND less Rhode Island.....	NAS BRUNSWICK.
OINC, NAVLEGSVCOFF, NEW-PORT.....	Rhode Island and New London.....	
COMTHREE.....	3 ND less New London.....	
COMFOUR.....	4 ND.....	NAS LAKEHURST, NAVSTA PHILA, NAVHOSP PHILA; NAVSTA KEFLAVIK, NAS BER-MUDA.
COMFIVE.....	5 ND less Maryland, plus activities under area coordination of COM NAVAIRLANT.....	
COMSIX.....	6 ND less Jacksonville, Key West, Pensacola, and Memphis areas.....	NSC CHARLESTON;
CONTACTICALAIRLANT.....	Jacksonville area, 6 ND.....	NTC ORLANDO, NAVSTA MAYPORT, NAS ALBANY NAS GLYNCO.

\$10,000 authority ¹	Geographical area ¹	\$1,000 authority
COMNAVBASE, KEY WEST	Key West area, 6 ND	CBC GULFPORT, NAS PEN-
OINC, NAVLEGSVCOFF, PEN-	Pensacola area, 6 ND	SACOLA, NAS MERIDIAN.
SACOLA		
CNTECHTRA	Memphis area, 6 ND	
COMEIGHT	New Orleans area, 8 ND	
OINC, NAVLEGSVCOFF, COR-	8 ND less New Orleans area	NAS KINGSVILLE, NAS CHASE
PUS CHRISTI		FIELD.
COMNINE	9 ND	
COMTEN	10 ND less Guantanamo Bay area, plus Bahama Islands and Caribbean area.	
COMNAVBASE GUANTANAMO	Guantanamo Bay area	
BAY		
COMELEVEN	11 ND less Los Angeles/Point Mugu area.	
COMNAVBASE LOS ANGELES	Los Angeles/Point Mugu areas	
COMTWELVE	12 ND	NSC, OAKLAND (\$5,000 au- thority), NAS LEMOORE, NAV PGSCOL MONTEREY.
		NAVSTA ADAK, NAS WHID BEY, NSC BREMERTON.
COMTHIRTEEN	13 ND	NSC HAWAII.
COMFOURTEEN	14 ND	
COMFIFTEEN	15 ND, plus South America and Central America.	NAVSECGRUACT EDZELL COMSUBRON 14.
COMNAVACTS UNITED	United Kingdom and Germany	COMMIDEASTFOR.
KINGDOM		
COMFAIR MEDITERRANEAN	Europe and Africa, less United King- dom, Germany, Spain, Portugal, and Morocco.	
NAVSTACT NAPLES		
COMNAVACTS SPAIN	Spain, Portugal, and Morocco	NAVTRACOM MOROCCO.
COMNAVFORJAPAN	Japan less Sasebo, plus Okinawa and Korea.	FLEACT RYUKYUS.
COMFLEACTS BASEBO	Sasebo area	
COMNAVMAIANAS	Marianas Islands, Australia, New Zealand, Antarctica, and South Pacific area.	NAVCOMSTA Harold E. Holt.
COMNAVBASE SUBIC BAY	Asia and Far East less Japan, Korea, Okinawa, Marianas Islands, Aus- tralia, New Zealand, Antarctica, South Pacific area, and Vietnam.	HEDSUPACT TAIPEI.

¹ The geographical areas listed delineate areas of primary responsibility only and are not limitations of adjudicating authority. It is policy to effect adjudication in the most efficient and expeditious manner possible regardless of geographical boundaries.

H. B. ROBERTSON, Jr.,
Rear Admiral, JAGC, U.S. Navy,
Acting Judge Advocate Gen-
eral.

JUNE 17, 1974.

[FR Doc.74-14345 Filed 6-21-74; 8:45 am]

Title 40—Protection of Environment CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER E—PESTICIDE PROGRAMS

PART 180—TOLERANCES AND EXEMPTIONS FROM TOLERANCES FOR PESTICIDE CHEMICALS IN OR ON RAW AGRICULTURAL COMMODITIES

Naled

A petition (1F1078) was filed by Chevron Chemical Co., 940 Hensley Street, Richmond, CA 94804, in accordance with provisions of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a), proposing the establishment of tolerances for combined residues of the insecticide naled (1,2-dibromo-2,2-dichloroethyl dimethyl phosphate) and its conversion product 2,2-dichlorovinyl dimethyl phosphate, expressed as naled, in or on the raw agricultural commodities pea vines at 1 part per million; and beans, peas, and soybeans (each in succulent form), hops, and safflower seed at 0.5 part per million.

Subsequently, the petitioner withdrew the request for tolerances for residues in or on pea vines and soybeans.

Based on consideration given the data submitted in the petition and other relevant material, it is concluded that:

1. The insecticide is useful for the purpose for which the tolerances are being established.

2. There is no reasonable expectation of residues in eggs, meat, milk, or poultry, and § 180.6(a) (3) applies.

3. The tolerances established by this order will protect the public health.

Therefore, pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (sec. 408(d) (2), 68 Stat. 512; 21 U.S.C. 346a(d) (2)), the authority transferred to the Administrator of the Environmental Protection Agency (35 FR 15623), and the authority delegated by the Administrator to the Deputy Assistant Administrator for Pesticide Programs (39 FR 18805), § 180.215 is amended by revising the paragraph "0.5 part per million * * *" to read as follows:

§ 180.215 Naled; tolerances for residues.

0.5 part per million in or on beans (succulent), cucumbers, eggplants, hops, melons, mushrooms, peas (succulent), peppers, pumpkins, rice, safflower seed, summer squash, tomatoes, and winter squash.

Any person who will be adversely affected by the foregoing order may at any time on or before July 24, 1974, file with the Hearing Clerk, Environmental Protection Agency, Room 1019E, 4th & M Streets, SW., Waterside Mall, Washington, D.C. 20460, written objections thereto in quintuplicate. Objections shall show wherein the person filing will be adversely affected by the order and specify with particularity the provisions of the order deemed objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing. A hearing will be granted if the objections are supported by grounds legally sufficient

to justify the relief sought. Objections may be accompanied by a memorandum or brief in support thereof.

Effective date. This order shall become effective June 24, 1974.

(Sec. 408(d) (2), 68 Stat. 512; (21 U.S.C. 346a (d) (2)))

Dated: June 19, 1974.

HENRY J. KOPF,
Deputy Assistant Administrator
for Pesticide Programs.

[FR Doc.74-14436 Filed 6-21-74; 8:45 am]

PART 180—TOLERANCES AND EXEMPTIONS FROM TOLERANCES FOR PESTICIDE CHEMICALS IN OR ON RAW AGRICULTURAL COMMODITIES

Methidathion

A petition (PP 3F1233) was filed by CIBA-GEIGY Corp., P.O. Box 1142, Greensboro, NC 27409, in accordance with provisions of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a), proposing establishment of tolerances for residues of the insecticide methidathion (0,0-dimethyl phosphorodithioate, S-ester with 4-(mercaptomethyl)-2-methoxy-Δ^{1,3,4}-thiadiazolin-5-one) in or on the raw agricultural commodities potatoes and tomatoes at 0.1 part per million.

Subsequently, the petitioner amended the petition by proposing a tolerance for residues of methidathion in or on potatoes at 0.2 part per million and by withdrawing the tolerance request for residues in or on tomatoes.

Based on consideration given the data submitted in the petition and other relevant material, it is concluded that:

1. The insecticide is useful for the purpose for which the tolerance is being established.

2. There is no reasonable expectation of residues in eggs, meat, milk, or poultry, and § 180.6(a) (3) applies.

3. The tolerance established by this order will protect the public health.

Therefore, pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (sec. 408(d) (2), 68 Stat. 512; 21 U.S.C. 346a(d) (2)), the authority transferred to the Administrator of the Environmental Protection Agency (35 FR 15623), and the authority delegated by the Administrator to the Deputy Assistant Administrator for Pesticide Programs (39 FR 18805), § 180.298 is amended by revising the paragraph "0.2 part per million * * *" to read as follows:

§ 180.298 Methidathion; tolerances for residues.

0.2 part per million in or on cottonseed and potatoes.

Any person who will be adversely affected by the foregoing order may at any time on or before July 24, 1974, file with the Hearing Clerk, Environmental Protection Agency, Room 1019E, 4th & M Streets, SW., Waterside Mall, Washington, D.C. 20460, written objections thereto in quintuplicate. Objections shall

show wherein the person filing will be adversely affected by the order and specify with particularity the provisions of the order deemed objectionable and the grounds for the objections. If a hearing is requested, the objections must state the issues for the hearing. A hearing will be granted if the objections are supported by grounds legally sufficient to justify the relief sought. Objections may be accompanied by a memorandum or brief in support thereof.

Effective date. This order shall become effective June 24, 1974.

(Sec. 408(d)(2), 68 Stat. 512; (21 U.S.C. 346a(d)(2)))

Dated: June 19, 1974.

HENRY J. KOPF,
Deputy Assistant Administrator
for Pesticide Programs.

[FR Doc. 74-14435 Filed 6-21-74; 8:45 am]

Title 45—Public Welfare

CHAPTER I—OFFICE OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PART 186—INDIAN ELEMENTARY AND SECONDARY SCHOOL ASSISTANCE ACT

Educational Agencies

On pages 9842 and 9843 of the *FEDERAL REGISTER* of March 14, 1974, there was published a notice of proposed rulemaking to issue regulations prescribing certain policies and requirements for criteria in determining priorities for eligible projects. Interested persons were given 30 days in which to submit written comments, suggestions, or objections regarding the proposed regulations.

Summary of comments. The following comments were submitted to the Office of Education regarding the proposed rulemaking. After the summary of each comment, a response is set forth stating reasons why no change is deemed necessary.

1. **Comment.** A commenter suggested that the definition of "nonlocal educational agency," as defined in 45 CFR 186.2, be modified to include Indian children in urban communities.

Response. Because the definition of nonlocal educational agency conforms closely with the enabling statute and because inclusion of the suggested change would raise questions of exceeding Congressional intent, no change is deemed necessary.

2. **Comment.** A commenter has suggested revision of the nonlocal educational agency definition to include alternative school situations.

Response. Since the statute does not mention the alternative school as an eligible institution, this office cannot incorporate an additional criterion which is not contemplated within the scope of the statute. Therefore, we recommend no change. If an applicant wishes to qualify as a nonlocal educational agency, the definition set forth in 45 CFR 186.2 will control as regards eligibility.

3. **Comment.** A commenter suggests that "non-profit institution" and "organization" be added to § 186.32(a)(1).

Response. The definition of nonlocal educational agency found in § 186.2 is incorporated by reference in paragraph (a), and thereby implicitly includes non-profit institutions and organizations as entities which must be representative and responsible to the Indian community. As a consequence of this incorporation, no change is warranted.

In light of the above comments and responses, the proposed regulations are hereby adopted without change and are set forth below.

Effective date. These regulations shall be effective June 24, 1974.

Date: May 31, 1974.

JOHN OTTINA,
U.S. Commissioner of Education.

Approved: June 18, 1974.

CASPAR W. WEINBERGER,
Secretary of Health,
Education, and Welfare.

(Catalog of Federal Domestic Assistance Program No. 13.534, Indian Elementary and Secondary School Assistance Act (Pub. L. 81-874, Title III, as added by Title IV, Part A, of the Education Amendments of 1972, 86 Stat. 334, (20 U.S.C. 241aa-241ff))

Part 186 is amended as set forth below:

§ 186.22 [Deleted]

(1) § 186.22 is deleted; and (2) Subpart D is added as follows.

Subpart D—Nonlocal Educational Agencies

Sec.
186.31 Eligibility; purpose.
186.32 Eligibility factors.
186.33 Criteria for selection of applications.

AUTHORITY: Pub. L. 81-874, Title III, as added by Title IV, Part A, Education Amendments of 1972, 86 Stat. 334 (20 U.S.C. 241aa-241ff).

Subpart D—Nonlocal Educational Agencies

§ 186.31 Eligibility; purpose.

(a) The Commissioner may, in accordance with section 303(b) of the Act (as defined in § 186.2), provide financial assistance to schools on or near reservations which are: (1) Nonlocal educational agencies (as defined in § 186.2) or (2) local educational agencies (i) which have been local educational agencies for less than three years, and (ii) which enroll a substantial proportion of Indian children, and (3) which best satisfy the selection criteria set forth in § 186.33.

(b) Assistance under this subpart is to be used for the purpose of developing and carrying out, in such agencies, elementary and secondary school programs specially designed to meet the special educational needs of Indian students.

(c) Assistance may be made available under this subpart to meet the costs incurred in connection with the establishment of such agencies.

(20 U.S.C. 241bb(b); S. Rept. 92-346, 92d Cong., 1st Sess. 1971, p. 99)

§ 186.32 Eligibility factors.

(a) **Eligibility of nonlocal educational agencies.** In determining whether an applicant is a nonlocal educational agency (as defined in § 186.2), eligible to apply for assistance under this subpart, the Commissioner shall consider such factors as the following:

(1) Whether the governing body of the school or school system was selected by, is representative of, and is solely responsible to the Indian tribe or community which that school or school system serves; and

(2) Whether the governing body derives authority from such community to carry out such functions as:

(i) Employing, managing, and terminating personnel;
(ii) Developing and revising curricula;
(iii) Establishing attendance, academic, and other relevant standards;
(iv) Developing and approving budgets;
(v) Establishing operational policies; and

(vi) Raising funds.

(b) **Applications of nonlocal educational agencies.** To assist the Commissioner in making eligibility determinations regarding nonlocal educational agencies, an application shall contain:

(1) Adequate documentation of the authority to carry out the functions contained in paragraph (a) of this section such as:

(i) Incorporation certificate or other organizational charter;
(ii) By-laws or charter;
(iii) Contract or other agreement to administer the school or school system;
(iv) A certified description of the duties of the governing body; and

(2) A description of the policies under which the governing body carries out the functions described in paragraph (a) of this section.

(c) **Applications of local educational agencies.** To assist the Commissioner in making eligibility determinations regarding local educational agencies, an application shall contain certified documentation of the date on which that agency was established as a local educational agency.

(20 U.S.C. 241bb(b))

§ 186.33 Criteria for selection of applications.

(a) In considering whether to approve applications, and in determining the amount of the awards under approved applications, the Commissioner will take into account, in addition to criteria contained in 45 CFR 100a.26(b), criteria such as the following:

(1) The number of Indian children enrolled in the agency applying for assistance, and the number that would be involved in the proposed program or project;

(2) The degree to which costs for which assistance is sought are connected to start up costs incurred in the establishment of community control of a

school or school system or of a new local educational agency;

(3) The degree to which the program or project to be assisted addresses the particular educational and cultural needs of Indian children;

(4) The degree to which the proposed program or project offers activities and services not previously available to Indian children in sufficient quantity or quality;

(5) The adequacy of planning to provide significant long-term improvement of educational opportunities for the Indian children to be served by the school system;

(6) The degree to which the proposed program or project is related to the educational plan and priorities of the Indian community to be served; and

(7) Whether the application satisfies appropriate requirements of Subpart B of this Part.

(b) Applications submitted under this subpart must satisfy the following requirements of Subpart B of this Part:

(1) Sections 186.11 and 186.12, dealing with required contents of applications;

(2) Section 186.13(b), requiring utilization of the best available talents and resources (including persons from the Indian community);

(3) Sections 186.13(c)(1) and 186.17, requiring an assurance that the proposed program or project will be developed, operated and evaluated in open consultation with the Indian community, including at least one public hearing at which all interested community members will have an opportunity to understand the program and to offer recommendations thereon; and

(4) Section 186.14, describing appropriate subjects for discussion at the public hearing required in paragraph (b)(3) of this section.

(c) Applications submitted under this subpart are not required to satisfy the provisions in §§ 186.13(c)(2) and 186.15-186.17 of subpart B of this Part relating to the nomination, selection, and functions of a Parent Committee.

(20 U.S.C. 241dd(b)(2))

[FR Doc.74-14336 Filed 6-21-74;8:45 am]

Title 46—Shipping

CHAPTER II—MARITIME ADMINISTRATION DEPARTMENT OF COMMERCE

SUBCHAPTER B—REGULATIONS AFFECTING MARITIME CARRIERS AND RELATED ACTIVITIES

PART 221—DOCUMENTATION, TRANSFER OR CHARTER OF VESSELS

Charges for Processing Certain Applications

A notice of proposed rule making with regard to 46 CFR 221.14 was published in the FEDERAL REGISTER on March 12, 1974 (39 FR 9544). Section 221.14 sets forth the charges for processing applications for the required approval by the Maritime Administration of transfers of vessels owned by United States citizens or documented under the laws of the United States, or shipyards, drydocks,

shipbuilding or ship-repairing plants or facilities to persons who are not citizens of the United States.

The proposed rule making would revise § 221.14 by: (1) Increasing the charges to reflect the increased costs of processing the applications; and (2) inserting in paragraph (a) a new subparagraph (7) that requires charges to accompany the applications for appointment of a qualified bank or trust company to act as trustee for an indebtedness that is secured by a mortgage on a vessel, or on a vessel under construction, or a shipyard, dry dock, shipbuilding or ship-repairing plant or facility.

No written objections have been received, and the proposed amendment to § 221.14 is hereby adopted without change as set forth below:

§ 221.14 Charges for processing certain applications.

(a) An application for approval of any of the following actions pursuant to sections 9 or 37 or both of the Shipping Act, 1916, as amended, shall be accompanied by a fee in the sum as set forth below:

- | | |
|---|-------|
| (1) Vessel construction for, and sale and delivery to, an alien, and transfer to foreign registry: | |
| (i) Vessel of 5,000 gross tons and over | \$200 |
| (ii) Vessel of over 1,000 gross tons but less than 5,000 gross tons | 100 |
| (iii) Vessel of 1,000 gross tons and under | 50 |
| (2) Mortgage of a vessel or of interest in a vessel to an alien | 50 |
| (3) Charter of a vessel to an alien | 50 |
| (4) Sale or transfer to an alien of a shipyard, drydock, ship building or ship repairing plant or facility, or any interest therein, having a capacity to accommodate: | |
| (i) Vessels of 5,000 gross tons and over | 200 |
| (ii) Vessels of over 1,000 gross tons but less than 5,000 gross tons | 100 |
| (iii) Vessels of 1,000 gross tons and under | 50 |
| (5) Sale or transfer of stock in a corporation organized under the laws of the United States, or of any State, territory, district, or possession thereof, and owning any vessel, shipyard, drydock, or ship building or ship repairing plant or facility, if by such sale or transfer the controlling interest or a majority of the voting power of the corporation is vested in, or for the benefit of, any person not a citizen of the United States | 50 |
| (6) Departure of a vessel from the United States if the vessel was built in the United States and never cleared for a foreign port, and if no transfer to foreign ownership or registry is involved | 25 |
| (7) Appointment of a qualified bank or trust company to act as trustee for an indebtedness secured by a mortgage on a vessel, or on a vessel under construction, or on a shipyard, drydock, or ship building or ship repairing plant or facility | 50 |

(b) An application for approval of any of the following actions pursuant to certain Maritime Administration contracts covering vessels transferred to a foreign ownership or registry or both shall be

accompanied by a fee in the sum as set forth below:

- | | |
|--|-------|
| (1) Transfer of ownership or registry of a vessel or both | \$200 |
| (2) Sale or transfer to an alien of stock in the foreign corporate owner of a vessel | 50 |
| (3) Charter of a vessel to an alien | 50 |

(c) An application for modification of any approval covered by paragraph (a) or (b) of this section shall be accompanied by the fee established for the original application.

(d) All fees set forth in this section will be retained to recover the cost of processing the applications.

(e) Application forms as required by this section may be obtained from and shall be submitted to: Foreign Transfer Branch, Office of Domestic Shipping, Maritime Administration, Washington, D.C. 20230.

(Sec. 43, Shipping Act, 1916, as amended (75 Stat. 776, 46 U.S.C. 841a), Reorganization Plan No. 21 of 1950 (64 Stat. 1273) and Reorganization Plan No. 7 of 1961 (75 Stat. 1840) as amended by P.L. 91-469 (84 Stat. 1036), Department of Commerce Order 10-8 (38 FR 19707, July 23, 1973))

Effective date. This amendment to 46 CFR 221.14 is effective on July 1, 1974.

Dated: June 18, 1974.

By Order of the Assistant Secretary of Commerce for Maritime Affairs,

AARON SILVERMAN,
Assistant Secretary.

[FR Doc.74-14425 Filed 6-21-74;8:45 am]

Title 49—Transportation

CHAPTER I—DEPARTMENT OF TRANSPORTATION

SUBCHAPTER A—HAZARDOUS MATERIALS REGULATIONS BOARD

[Docket No. HM-105; Amdt. No. 173-80]

PART 173—SHIPPERS

Tank Car Utilization

In Docket No. HM-105; Amendment No. 173-80, published April 30, 1974 (39 FR 15034) § 173.119(e)(2) was amended. One of the changes resulted in no longer authorizing the use of Department of Transportation specification 111A100W3 tank cars for flammable liquids that are subject to § 173.119 and have a vapor pressure exceeding 16 pounds per square inch absolute, at 100° F. but not exceeding 27 p.s.i.a.

This change was brought to the attention of the Hazardous Materials Regulations Board ("the Board") by Celtran, Incorporated which petitioned that the DOT-111A100W3 be reinstated as an authorized packaging for these flammable liquids. The petitioner stated:

It appears that this specification was erroneously omitted from the subject docket, in as much as the basic difference between the 111A100W1 and the 111A100W3 is that the 111A100W3 is insulated. [The 111A100W1 specification tank car is presently authorized for these liquids.] Also no mention was made in the preamble that it was the Board's intention to eliminate this specification car from the regulations.

The petitioner is correct. The Board omitted the entry in error.

Accordingly, § 173.119, paragraph (e) (2) is hereby amended by adding "111A100W3" following the 111A60W1 entry.

This amendment is effective September 30, 1974.

(Transportation of Explosives Act (18 U.S.C. 831-835); sec. 6, Department of Transportation Act; (49 U.S.C. 1655))

Issued in Washington, D.C. on June 14, 1974.

JOHN W. INGRAM,
Board Member,
Federal Railroad Administration.

[FR Doc.74-14313 Filed 6-21-74;8:45 am]

CHAPTER X—INTERSTATE COMMERCE COMMISSION

SUBCHAPTER A—GENERAL RULES AND REGULATIONS

[Second Rev. S. O. No. 1117-A]

PART 1033—CAR SERVICE

Substitution of Hopper Cars for Covered Hopper Cars or Boxcars

At a Session of the Interstate Commerce Commission, Railroad Service Board, held in Washington, D.C., on the 18th day of June 1974.

Upon further consideration of Second Revised Service Order No. 1117 (38 FR 7332, 19126, 31309 and 39 FR 13158), and good cause appearing therefor:

It is ordered, That:

§ 1033.1117 S.O. 1117 (*Substitution of hopper cars for covered hopper cars or boxcars*) be, and it is hereby, vacated and set aside.

(Secs. 1, 12, 15, and 17(2), 24 Stat. 379, 383, 384, as amended; (49 U.S.C. 1, 12, 15, and 17 (2)). Interprets or applies Secs. 1(10-17), 15 (4), and 17(2), 40 Stat. 101, as amended, 54 Stat. 911; (49 U.S.C. 1(10-17), 15(4), and 17 (2)))

It is further ordered, That this order shall become effective at 11:59 p.m., June 19, 1974; that copies of this order and direction shall be served upon the Association of American Railroads, Car Service Division, as agent of the railroads subscribing to the car service and car hire agreement under the terms of that agreement, and upon the American Short Line Railroad Association; and that notice of this order shall be given to the general public by depositing a copy in the Office of the Secretary of the

Commission at Washington, D.C., and by filing it with the Director, Office of the Federal Register.

By the Commission, Railroad Service Board.

[SEAL] ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14430 Filed 6-21-74;8:45 am]

SUBCHAPTER B—PRACTICES AND PROCEDURE

PART 1100—GENERAL RULES OF PRACTICE

Evidence; Objections To (Rule 87)

At a General Session of the Interstate Commerce Commission, held at its office in Washington, D.C., on the 15th day of May, 1974.

It is ordered, That § 1100.87 of the Commission general rules of practice be amended by adding the following language after the last sentence of § 1100.87.

§ 1100.87 Evidence; objections to. (Rule 87)

* * * Rulings of the presiding officer may not be appealed during the hearing except where such ruling (a) may result in substantial detriment to the public interest or undue prejudice to any party, and the presiding officer so finds, (b) denies or terminates any person's participation, (c) grants a request for the inspection of documents not ordinarily available for public inspection, (d) overrules an objection based on privilege, the result of which ruling is to require the presentation of testimony or documents, or (e) for some other reason might, in the opinion of the presiding officer, result in substantial irreparable harm.

By the Commission.

[SEAL] ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14429 Filed 6-21-74;8:45 am]

Title 13—Business Credit and Assistance

CHAPTER III—ECONOMIC DEVELOPMENT ADMINISTRATION, DEPARTMENT OF COMMERCE

PART 311—NONDISCRIMINATION

Subpart E—Minority Representation and Employment on Public Planning Organizations

Part 311 of 13 CFR Chapter III is hereby amended.

In that the material contained herein is a matter relating to the grant and loan program of the Economic Development Administration, the relevant provisions of the Administrative Procedure Act (5 U.S.C. 553) requiring notice of proposed rulemaking and opportunity for public participation are inapplicable.

Sections 311.63 and 311.71 are amended to read as follows:

§ 311.63 Implementing procedures.

(a) * * *

(1) The following guidelines are established as a model procedure to assure that, after June 1, 1971, new planning and development organizations seeking final EDA approval of an application for initial funding or a request for district designation shall provide minorities the opportunity to select their own representatives. Where in the opinion of the Assistant Secretary it is necessary to extend the period of time available to fulfill these requirements, compliance with the provisions of this section may be delayed to a date certain after approval.

§ 311.71 Submission of affirmative action program.

(a) Each organization established after June 1, 1971, shall submit its affirmative action program with the application for funding, or in case funds are not requested, as part of the OEDP. Where in the opinion of the Assistant Secretary it is necessary to extend the period of time available to fulfill these requirements, compliance with the provisions of this section may be delayed to a date certain after approval.

(Sec. 701, Public Law 89-136 (August 26, 1965); 42 U.S.C. 3211; 79 Stat. 570 and Department of Commerce Organization Order 10-4 (April 1, 1970))

Effective date. These amendments become effective on June 20, 1974.

Dated: June 19, 1974.

WILLIAM W. BLUNT, Jr.,
Assistant Secretary
for Economic Development.

[FR Doc.74-14528 Filed 6-21-74;8:45 am]

proposed rules

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rulemaking prior to the adoption of the final rules.

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[50 CFR Part 16]

INJURIOUS WILDLIFE

Notice of Hearing

On December 20, 1973, a notice of proposed rulemaking was published in the FEDERAL REGISTER (38 FR 34970) which proposed regulations affecting injurious wildlife. This proposal included a list of low risk wildlife, importation restrictions, and permit requirements. It was stated that public hearings would be held prior to final rulemaking and after the issuance of a draft Environment Impact Statement (EIS) on the proposal. A notice of the availability of the draft EIS was published in the FEDERAL REGISTER on June 5, 1974 (39 FR 19969). Hearings will be held in Washington, D.C., Miami, Florida, and San Francisco, California, as originally proposed. In addition, requests and petitions have been received for a hearing in Kansas City, Missouri. Due to the interest shown, an additional hearing will be held in Kansas City. The dates, times, and places of the hearings are as follows:

- Date: August 5, 1974.
Place: Auditorium, Department of the Interior, 18th and C Sts., NW., Washington, D.C.
Time: 9:00 a.m.-4:00 p.m.
- Date: August 5, 1974.
Place: Miami-Dade Community College, North Campus, Ten Players' Theater, 1130 NW. 27th Ave., Miami, Florida.
Time: 9:00 a.m.-5:00 p.m.
- Date: August 6, 1974.
Place: Crown Center Hotel, Centennial B Room, 1 Pershing Road, Kansas City, Missouri.
Time: 9:00 a.m.-5:00 p.m.
- Date: August 9, 1974.
Place: Auditorium, Veteran's Memorial Building, Van Ness and McCallister, San Francisco, California.
Time: 9:00 a.m.-5:00 p.m.

The EIS for this proposal is available for public inspection during normal business hours at the Bureau of Sport Fisheries and Wildlife office in Suite 600, 1612 K Street NW., Washington, D.C., and at the regional offices at the following locations:

- Regional Director
Bureau of Sport Fisheries and Wildlife
P.O. Box 3737
Portland, Oregon 97208
- Regional Director
Bureau of Sport Fisheries and Wildlife
P.O. Box 1306
Albuquerque, New Mexico 87103
- Regional Director
Bureau of Sport Fisheries and Wildlife
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

Regional Director
Bureau of Sport Fisheries and Wildlife
17 Executive Park Drive NE
Atlanta, Georgia 30323

Regional Director
Bureau of Sport Fisheries and Wildlife
U.S. Post Office and Courthouse
Boston, Massachusetts 02109

Regional Director
Bureau of Sport Fisheries and Wildlife
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Alaska Area Director
Bureau of Sport Fisheries and Wildlife
813 D Street
Anchorage, Alaska 99501

Persons wishing to make an oral presentation or submit their views in writing at any of these hearings should file a notice to this effect with the Director, Bureau of Sport Fisheries and Wildlife, Department of the Interior, 19th & C Sts., NW., Washington, D.C. 20240, on or before July 22, 1974. This notice is published under the authority of the Lacey Act (18 U.S.C. 42).

Dated: June 18, 1974.

KEITH M. SCHREINER,
Acting Director, Bureau of Sport
Fisheries and Wildlife.

[FR Doc. 74-14311 Filed 6-21-74; 8:45 am]

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

[7 CFR Part 958]

ONIONS GROWN IN DESIGNATED COUNTIES IN IDAHO AND MALHEUR COUNTY, OREGON

Proposed Handling Regulation

This proposal, designed to promote orderly marketing of Idaho-Eastern Oregon onions, would require minimum quality standards and inspection of fresh market shipments to keep low quality onions from being shipped to consumers.

Consideration is being given to the issuance of the handling regulation, hereinafter set forth, which was recommended by the Idaho-Eastern Oregon Onion Committee, established pursuant to Marketing Agreement No. 130 and Order No. 958, both as amended (7 CFR Part 958), regulating the handling of onions grown in the production area defined therein. This program is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 et seq.).

The recommendations of the committee reflect its appraisal of the composition of the 1974 crop of Idaho-Eastern Oregon onions and the marketing prospects for this season and are consistent with the marketing policy it adopted.

Harvesting of onions is expected to begin about mid-July.

The grade, size and quality requirements provided herein are necessary to prevent onions of poor quality or less desirable sizes from being distributed in fresh market channels. They will also provide consumers with good quality onions consistent with the overall quality of the crop, and maximize returns to producers for the preferred quality and sizes. The requirements with respect to special purpose shipments for other than fresh market use are designed to meet the different requirements for such outlets.

All persons who desire to submit written data, views, or arguments in connection with this proposal shall file the same with the Hearing Clerk, Room 112A, U.S. Department of Agriculture, Washington, D.C. 20250, not later than July 9, 1974. All written submissions made pursuant to this notice will be made available for public inspection at the office of the Hearing Clerk during regular business hours (7 CFR 1.27(b)).

§ 958.319 Handling regulation.

During the period July 17, 1974, through April 30, 1975, no person may handle any lot of yellow or white varieties of onions unless such onions are at least "moderately cured," as defined in paragraph (f) of this section, and meet the requirements of paragraphs (a) and (b) of this section, or unless such onions are handled in accordance with paragraphs (c), (d), or (e) of this section.

(a) *Grade, size, and pack requirements*—(1) *Yellow varieties*. U.S. No. 1, 2½ inches minimum diameter or larger; or U.S. No. 1, 1½ inches minimum to 2½ inches maximum diameter, if packed separately; or U.S. No. 2 grade, 3 inches minimum diameter, if not more than 30 percent of the lot is comprised of onions of U.S. No. 1 quality.

(2) *White varieties*. U.S. No. 1, 1½ inches minimum diameter or larger; or U.S. No. 2, if not more than 30 percent of the lot is comprised of onions of U.S. No. 1 quality, 1½ inches minimum diameter; or U.S. No. 2, 1 inch minimum to 2 inches maximum diameter if packed separately.

(b) *Inspection*. No handler may handle any onions regulated hereunder unless such onions are inspected by the Federal-State Inspection Service and are covered by a valid applicable inspection certificate, except when relieved of such requirement pursuant to paragraphs (c) and (e) of this section.

(c) *Special purpose shipments*. The minimum grade, size, quality and inspection requirements of this section shall

not be applicable to shipments of onions for any of the following purposes.

- (1) Planting;
 - (2) Livestock feed;
 - (3) Charity;
 - (4) Dehydration;
 - (5) Canning; and
 - (6) Freezing.
- (d) *Safeguards.* Each handler making shipments of onions for dehydration, canning, or freezing pursuant to paragraph (c) of this section shall:

(1) First apply to the committee for and obtain a Certificate of Privilege to make such shipments;

(2) Prepare, on forms furnished by the committee, a report in quadruplicate on each individual shipment to such outlets authorized in paragraph (c) of this section;

(3) Bill or consign each shipment directly to the applicable processor; and

(4) Forward one copy of such report to the committee office and two copies to the processor for signing and returning one copy to the committee office. Failure of the handler or processor to report such shipments by promptly signing and returning the applicable report to the committee office shall be cause for cancellation of such handler's Certificate of Privilege and/or the processor's eligibility to receive further shipments pursuant to Certificate of Privilege. Upon cancellation of any such Certificate of Privilege the handler may appeal to the committee for reconsideration.

(e) *Minimum quantity exception.* Each handler may ship up to, but not to exceed, 1 ton of onions each day without regard to the inspection and assessment requirements of this part, if such onions meet minimum grade, size, and quality requirements of this section. This exception shall not apply to any portion of a shipment that exceeds 1 ton of onions.

(f) *Definitions.* The terms "U.S. No. 1" and "U.S. No. 2" have the same meaning as when used in the United States Standards for Grades of Onions (§§ 51.2830-51.2854 of this title; 36 FR 19243, except for sizes and grades regulated). The term "moderately cured" means the onions are mature and are more nearly well cured than fairly well cured. Other terms used in this section have the same meaning as when used in Marketing Agreement No. 130 and this part.

Dated: June 19, 1974.

CHARLES R. BRADER,
Deputy Director, Fruit and
Vegetable Division, Agricultural
Marketing Service.

[FR Doc.74-14424 Filed 6-21-74; 8:45 am]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Social Security Administration

[20 CFR Part 401]

[Reg. No. 1]

DISCLOSURE OF OFFICIAL RECORDS AND INFORMATION

Notification to Immigration and
Naturalization Service

Notice is hereby given, pursuant to the Administrative Procedure Act (5 U.S.C.

553), that the amendment to the regulation set forth in tentative form is proposed by the Commissioner of Social Security, with the approval of the Secretary of Health, Education, and Welfare. The proposed amendment authorizes the Social Security Administration to notify the Immigration and Naturalization Service when an alien fails, after a reasonable period of time, to produce appropriate Immigration and Naturalization Service documents or produces invalid or expired documents to establish his alien status in applying for a social security number for any purpose, when an alien applies for a social security number to be used for employment purposes and cannot or does not establish that he is permitted to work in the United States, and when earnings are reported to the record of an alien who has been assigned a social security number to be used only for non-work purposes.

This authorization conforms Regulation No. 1 to the amendments to Regulations No. 22 (20 CFR Part 422) published in the FEDERAL REGISTER of March 19, 1974 (39 FR 10238). The amendments to Regulations No. 22 provide for such disclosure and also provide that an alien applicant for a social security number will be advised in advance that such notice will be given to the Immigration and Naturalization Service. The proposed amendment to Regulation No. 1 thus implements in part that portion of section 137 of the Social Security Amendments of 1972 (Pub. L. 92-603) which directs the Secretary to require applicants for social security numbers to furnish evidence to establish their age, citizenship or alien status, and true identity.

Prior to the final adoption of the proposed amendment to the regulations, consideration will be given to any data, views, or arguments pertaining thereto which are submitted in writing in triplicate to the Commissioner of Social Security, Department of Health, Education, and Welfare Building, Fourth and Independence Avenue SW., Washington, D.C. 20201, on or before July 24, 1974.

Copies of all comments received in response to this notice will be available for public inspection during regular business hours at the Washington Inquiries Section, Office of Public Affairs, Social Security Administration, Department of Health, Education, and Welfare, North Building, Room 4146, 330 Independence Avenue SW., Washington, D.C. 20201.

The proposed amendment to the regulation is to be issued under the authority contained in sections 205 and 1102, 53 Stat. 1368, as amended, and 49 Stat. 647, as amended; 42 U.S.C. 405 and 1302.

(Catalog of Federal Domestic Assistance Program Nos. 13.800-13.807, Social Security)

Dated: May 23, 1974.

J. B. CARDWELL,
Commissioner of Social Security.

Approved: June 17, 1974.

CASPAR W. WEINBERGER,
Secretary of Health, Education,
and Welfare.

Part 401 of Chapter III of Title 20 of the Code of Federal Regulations is

amended to add paragraph (x) to § 401.3 to read as follows:

§ 401.3 Information which may be disclosed and to whom.

Disclosure of any such file, record, report, or other paper, or information, is hereby authorized in the following cases and for the following purposes:

(x) Under the conditions of § 422.107 of this chapter, regarding the issuance of social security numbers, notice will be given to the Immigration and Naturalization Service:

(1) When an alien applicant for a social security number has offered invalid or expired immigration documents as evidence of his alien status (see § 422.107(d) (4) of this chapter);

(2) When an alien applicant for a social security number has failed to furnish, after a reasonable time, satisfactory evidence of his alien status (see § 422.107(d) (3) of this chapter);

(3) When an alien applicant requests a social security number for employment purposes and produces immigration documents indicating that he is not permitted to work in this country (see § 422.107(d) (1) of this chapter); or

(4) When earnings have been reported to the earnings record of an alien who is not permitted to work in this country and who was issued a social security number solely for nonwork purposes (see § 422.107(d) (1), and (2) of this chapter).

[FR Doc.74-14337 Filed 6-21-74; 8:45 am]

ATOMIC ENERGY COMMISSION

[10 CFR Part 20]

STANDARDS FOR PROTECTION AGAINST RADIATION

Concentration Value for Radon-222
Daughters and Its Use When Uranium
Ore Dust Is Present

The Atomic Energy Commission has under consideration amendments of its regulations in 10 CFR Part 20, "Standards for Protection Against Radiation," which would establish an occupational concentration value for radon-222 daughters in air in Table I of Appendix B and delete the value for radon-222. The limit for radon would be replaced by a limit on radon daughters because the daughters are the major health hazard. The change would have the effect of limiting the exposure permitted from radon daughters to 4 "working level months" per year as was recommended by the Environmental Protection Agency for the uranium mining industry (36 FR 12921). The proposed value is about one-third of that in the current paragraph (b) of § 20.5. The proposed amendment would require a determination of radon-222 daughter concentrations where uranium ore is processed prior to separation of the uranium from the ore in addition to the present requirement for a determination of the uranium concentration.

In Appendix B of Part 20 the current occupational concentration value for radon-222 in air is 10⁻⁷ microcuries per milliliter. The short-lived daughters of radon are not now listed in the appendix.

This is because the value for radon-222 was established on the basis of the assumption that its daughters would be present in equilibrium quantities or that expected departures from equilibrium would not have a major effect on the results, and thus that the single value for radon-222 could be used for control of both the radon and its daughters. Specifically, it has been assumed that when 10^{-7} microcurie/ml of radon-222 was present, up to 10^{-7} microcurie/ml of polonium-218, 10^{-7} microcurie/ml of lead-214, 10^{-7} microcurie/ml of bismuth-214, and 10^{-7} microcurie/ml of polonium-214 would also be present and that they did not have to be separately considered.

Expressed in terms of "working levels," the concentration unit used by the EPA, radon daughter concentrations in equilibrium with 10^{-7} microcurie/ml of radon-222 are equal to one "working level." A "working level" is defined as any combination of radon daughters in one liter of air, without regard to the degree of equilibrium, that will result in the ultimate emission of 1.3×10^6 MeV of alpha particle energy. A concentration of 10^{-7} microcurie/ml of each of the short-lived radon daughters will release that quantity of alpha particle energy in one liter of air. Exposure to this concentration for forty hours a week for one year results in an exposure of 12 "working level months" for that year. The EPA recommends a limit of 4 "working level months" per year for the uranium mining industry. Therefore, in adopting the EPA recommendation AEC would reduce the exposure to radon daughters that it now allows to approximately one-third of the present level. Such a reduction would be in conformance with the concentration value recommended by the International Commission on Radiological Protection since 1959. Their Publication 2, "Report of Committee II on Permissible Dose for Internal Radiation," recommends a limit on radon-222 of 3×10^{-8} microcurie/ml where its daughters "are assumed present to the extent they occur in unfiltered air." The ICRP reaffirmed this value in 1964 in its Publication 6, "Recommendations of the International Commission on Radiological Protection." The National Council on Radiation Protection and Measurements has also recommended a limit on radon-222 of 3×10^{-8} microcurie/ml where its daughters "are assumed present to the extent they occur in unfiltered air." Their recommendation is contained in National Bureau of Standards Handbook 69 (1959).

A simple reduction of the concentration value for radon-222 from 10^{-7} microcurie/ml to 3×10^{-8} microcurie/ml to meet the EPA standard has been considered but rejected. The EPA standard is directly based on radon daughter concentrations. This is desirable because the daughters themselves, and not the radon-222, are generally the primary health hazard. Also the use of radon daughter measurements as a basis requires no assumptions about the degree

of disequilibrium. It is suggested, therefore, that since the daughters themselves are the primary potential health hazard, the value in Table I of Appendix B should be expressed directly in terms of radon daughter concentrations.

The possibility of expressing the radon daughter concentrations in terms of "working levels" was also considered but rejected. All concentrations in Appendix B are currently expressed in terms of "microcurie/ml." It is believed that to introduce a new unit applicable to only one nuclide would make the regulations more complex and unnecessarily difficult to understand. It would also make the rules for mixtures in the Note to Appendix B more difficult to use. Also records, normally kept in terms of "microcurie/ml," would be more difficult to keep and to understand.

It was therefore decided that the limit on radon daughters should be expressed in terms of microcurie/ml of daughters. Furthermore, since alpha particles are the primary potential hazard, it was considered desirable to express the limits on daughter concentrations in terms of the alpha activity only.

The daughters which emit alphas are polonium-218 (radium A) and polonium-214 (radium C'). The current value in Appendix B for occupational exposure to radon-222 is 10^{-7} microcurie/ml. This permits up to 10^{-7} microcurie/ml of alpha emitting polonium-218 and 10^{-7} microcurie/ml of alpha emitting polonium-214 to be present. The total alpha activity from radon daughters permitted under the present requirement would therefore be 2×10^{-7} microcurie/ml. The proposed value for daughter alpha activity is 7×10^{-8} microcurie/ml, effectively one-third of the present value.

This value would appear in a new line in Appendix B which would be called "Rn-222 daughters." It would have a single entry. The value of 7×10^{-8} microcurie/ml would appear in Column 1, Table I, the occupational airborne value. It would replace the value of 1×10^{-7} now in Column 1, Table I on the line for Rn-222.

A new footnote 4 to Appendix B would note that the new value is the alpha activity. It would also give alpha activities at times subsequent to the collection of a 5 minute sample. The values were taken from data given in American National Standard N13.8-1973, "Radiation Protection in Uranium Mines." (Note that Appendix B currently has two footnotes and a Note with five paragraphs.)

While the proposed value for radon-222 daughters is not necessarily identical with a value of one-third working level, in actual practice it will not differ markedly. "Working levels" are usually measured by counting the alpha activity deposited on a filter following a five minute collection period. The new footnote 4 allows the same procedure, and the activities in footnote 4 corresponding to a daughter alpha activity of 7×10^{-8} microcurie/ml are the same as those for one-third "working level" in American National Standard N13.8-1973.

The proposed value of 7×10^{-8} $\mu\text{Ci/ml}$ alpha activity in Table I of Appendix B is not always equal to one-third "working level." When there is disequilibrium, the proposed value is more restrictive than one-third "working level." For example, when the relative activities of radium A, radium B, and radium C (or radium C') are 1:0.45:0.35, 7×10^{-8} microcurie/ml of alpha activity is equal to 0.24 "working levels" rather than 0.33.

Under nonequilibrium conditions the value of 7×10^{-8} microcurie/ml is always conservative. However, the possible overestimation of the radon daughter hazard is considered acceptable, particularly since it may be avoided by the use of the new footnote 4.

In one way this proposed rule change is more stringent than the EPA recommendation. The EPA specified limit on exposure to radon, 4 "working level months" per year, would permit annual averaging of exposures. The Atomic Energy Commission presently limits averaging to a one-week period and is considering a change to quarterly averaging of airborne exposures to concentrations of radioactive materials.

Quarterly averaging should not be sufficiently more stringent than annual averaging; it is thus not significantly different from the EPA recommendation.

Since paragraph (b) of § 20.5, which now relates observed alpha activity to a radon-222 concentration of 10^{-7} microcurie/ml, would no longer be needed for occupational exposures, the paragraph would be deleted. However, a similar table to apply to the Table II value (unrestricted area) in Appendix B for radon-222 of 3×10^{-6} microcurie/ml would be added as a footnote 3 to Appendix B. The values in the table in footnote 3 would also be based on the data in the American National Standard N13.8-1973, as are the values in the proposed new footnote 4.

The letter "S", denoting a soluble compound, would be deleted for the radon-222 and radon-222 daughter entries in Appendix B. Radon daughters are most harmful when they exist as isolated atoms, unattached to larger particles. The concept of solubility has little meaning for such unattached atoms.

Additionally, paragraph 4 of the Note to Appendix B of Part 20, which now specifies limits on concentrations of uranium ore dust in air prior to chemical processing, would be revised to make the given concentrations applicable to uranium and its daughters except radon-222 daughters. An independent value would be applicable to the radon daughters. When the Note to Appendix B was originally written, it was thought that exposures to radon-222 daughters would be insignificant in comparison with exposures to uranium-238, thorium-230, and radium-226. However, radon-222 daughter concentrations can be significant in some instances and should be considered separately. Also, the word "separation" would be substituted for "processing" to define more precisely under what circumstances the Note is applicable.

The Commission has determined that an environmental impact statement pursuant to the National Environmental Policy Act of 1969 need not be prepared in connection with the promulgation of these regulations because they will not significantly affect the quality of the human environment. An environmental impact appraisal setting forth the basis for that determination is available for public inspection at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C. Single copies of the environmental impact appraisal may be obtained by writing the Occupational Health Standards Branch, Directorate of Regulatory Standards, U.S. Atomic Energy Commission, Washington, D.C. 20545.

Pursuant to the Atomic Energy Act of 1954, as amended, and section 553 of title 5 of the United States Code, notice is hereby given that adoption of the following amendments of 10 CFR Part 20 is contemplated. All interested persons who desire to submit written comments or suggestions for consideration in connection with the proposed amendments should send them to the Secretary of the Commission, U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Chief, Public Proceedings Staff by August 23, 1974. Copies of the comments on the proposed amendments may be examined at the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C.

§ 20.5 [Amended]

1. Paragraph (b) of § 20.5 is deleted.

APPENDIX B

2. In Appendix B of Part 20, in the line for "Isotope" Rn 222 listed under the "Element" Radon (86) the value in Table I and the symbol "S" are deleted, and a new line for radon-222 daughters is added beneath the Rn 222 line. The two lines would now read as follows:

Isotope	Table I		Table II	
	Column 1 air μCi/ml	Column 2 water μCi/ml	Column 1 air μCi/ml	Column 2 water μCi/ml
Rn 222 ¹				
Rn 222 daughters ²				

¹ Radon daughters are assumed present. The short lived daughter activity concentrations in the following table may be assumed equivalent to an air concentration of 3×10^{-4} microcuries of radon-222 per milliliter of air.

² Rn-222 daughter alpha activity only. This instantaneous value will overestimate the hazard when the daughter concentrations are not in equilibrium. The overestimate may be avoided by allowing the daughter activity to decay for 40 minutes or longer and using the table below. The short lived daughter activity concentrations in the following table may be assumed equivalent to an air concentration of 7×10^{-4} microcuries of alpha activity of radon-222 daughters per milliliter of air.

3. A new footnote 3 is added to Appendix B of Part 20 to read as follows:

Time after a 5-minute collection period	Radon daughter alpha activity collected per milliliter of air	
	Microcuries/ml	Total alpha disintegrations per minute per ml
40 minutes	2.2×10^{-4}	0.005
60	1.7×10^{-4}	.0037
90	$.9 \times 10^{-4}$	.002

4. A new footnote 4 is added to Appendix B of Part 20 to read as follows:

Time after a 5-minute collection period	Radon daughter alpha activity collected per milliliter of air	
	Microcuries/ml	Total alpha disintegrations per minute per ml
40 minutes	2.2×10^{-4}	0.05
60	1.7×10^{-4}	.037
90	$.9 \times 10^{-4}$	.02

5. The first sentence of paragraph 4 of the Note to Appendix B of Part 20 is revised to read as follows:

NOTE: * * *

4. If the mixture of radionuclides consists of uranium and its daughters in ore dust prior to chemical separation of the uranium from the ore, the values specified below may be used for uranium and its daughters, except for the short-lived daughters of radon-222, those through polonium-214, instead of those from paragraphs 1, 2, or 3 above.

(Sec. 161, Pub. Law 83-703, 68 Stat. 948; (42 U.S.C. 2201))

Dated at Germantown, Md. this 15th day of June 1974.

For the Atomic Energy Commission.

PAUL C. BENDER,
Secretary of the Commission.

[FR Doc.74-14387 Filed 6-21-74; 8:45 am]

CIVIL AERONAUTICS BOARD

[14 CFR Parts 207, 208, 212, 214, 217, 241, 249, 369, 389]

[EDR-276; SPDR-37; ODR-8;
Docket No. 26810]

CHARTER FLIGHTS

Notice of Proposed Rulemaking

Notice is hereby given that the Civil Aeronautics Board has under consideration the adoption of a new Part 369 of its Special Regulations establishing a new class of charter designated as a "Special Event Charter." Under consideration also are implementing amendments to Parts 207, 208, 212, 214, 217, 241, and 249 of the Economic Regulations and Part 389 of the Organization Regulations. The principal features of the proposals are described in the Explanatory Statement, and the proposed amendments are set forth in the Proposed Rules. The

amendments are proposed under the authority of sections 101(3), 204(a), 401, 402, 407, 416(a), and 1001 of the Federal Aviation Act of 1958, as amended, 72 Stat. 737 (as amended), 743, 754 (as amended), 757, 766, 771, and 788; 49 U.S.C. 1301, 1324, 1371, 1372, 1377, 1386, and 1481.

Interested persons may participate in the proposed rule making through submission of twelve (12) copies of written data, views or arguments pertaining thereto, addressed to the Docket Section, Civil Aeronautics Board, Washington, D.C. 20428. All relevant material in initial comment received on or before July 25, 1974, and reply comments received on or before August 9, 1974, will be considered by the Board before taking final action on the proposed rules. Copies of such communications will be available for examination by interested persons in the Docket Section of the Board, Room 710 Universal Building, 1825 Connecticut Avenue, NW., Washington, D.C., upon receipt thereof.

Those persons planning to file comments or responsive comments who wish to be served with such comments filed by others, and are willing to undertake to serve their comments on others, shall file with the Docket Section at the above address by July 5, 1974, a request to be placed on the Service List in Docket No. 26810. The Service List will be prepared by the Docket Section and sent to the persons named thereon. The persons on the Service List are to serve each other with their comments or responsive comments at the time of filing.

A list of all persons filing comments will be prepared by the Docket Section and sent to the persons named thereon. Responsive comments may be filed by any person by August 9, 1974, and comments so filed will be considered by the Board. In addition to those on the Service List who filed comments, persons filing responsive comments should also serve any person whose comment is dealt with in their responsive comment.

By the Civil Aeronautics Board.

[SEAL] EDWIN Z. HOLLAND,
Secretary.

EXPLANATORY STATEMENT

As is well known, the Board has on a number of occasions expressed its dissatisfaction with the "prior affinity" type of charter, on the grounds that such charters are discriminatory and that the affinity rules have proven extremely difficult to enforce.¹ Nevertheless, despite the introduction of new types of charters not requiring prior affinity among members of a charter group,²

¹ See, e.g., SPDR-33, September 4, 1973, Docket 25854.

² E.g., Inclusive Tour Charters (ITC's) under Part 378 and Travel Group Charters (TGC's) under Part 372a of the Special Regulations.

prior affinity charters still constitute the predominant charter category operated. The reduction or elimination of reliance on affinity charters is dependent on the development of viable alternative types of charters. Accordingly, as an additional alternative to prior affinity charters, we are here proposing the adoption of rules governing a new category of charter to be known as "Special Event Charters" (SEC).

The concept of a charter limited to a group of persons having the common purpose of attending a particular event is not new. For example, several years ago eight supplemental air carriers included in a petition for rule making a proposal for instituting proceedings to amend the charter rules pertaining to supplemental carriers to permit special event or "Rose Bowl" type charters.² Rulemaking proceedings on this proposal were not instituted because of basic difficulties with the rule proposed. For example, "Special Event" was not defined and no safeguards were provided against the possibilities of abuse by persons using a special event charter for point-to-point air transportation unconnected with the ostensible purpose of the charter. In sum, the rules proposed by the supplemental carriers would have only added to the enforcement problems the Board was confronting with respect to the prior affinity rules.

Notwithstanding the defects of the rules as then proposed, we believe that there can be little doubt that a group of persons sharing the common interest and purpose of attending a particular event is per se charterworthy in concept, and that a charter composed of such a group is distinguishable from individually ticketed services. In our judgment there is also a need for SEC's which is not met by other types of charters or individually ticketed services. Prior affinity charters are not usable by a large segment of the public for attendance at a special event. The ITC rules with their three-stop requirements are not applicable to attendance at a single special event. The more recent TGC rules cannot be used for the many special events which are announced shortly before they take place.

In addition, the public need for SEC's is illustrated by developments which have recently taken place abroad. Austria, France, Germany, and the United Kingdom have adopted "special event charter" rules. Canada has a "pro rata common purpose" charter for special events. And the European Civil Aviation Conference (ECAC) has recommended to its Member States that "special event charters" be allowed on an ad hoc basis where such charters could not be operated as "Advance Booking Charters" (ABC's).

The evident legitimacy of and need for SEC's warrant, in our opinion, the adoption of the rules proposed herein. These

rules, in sum, will provide adequate assurance that SEC's will not be used as a substitute for point-to-point air transportation and will insure protection to the public in their dealings with charter organizers.

The basic plan of the rules is similar to other special charter rules in that the charter organizer would be deemed an indirect air carrier and, in view of the need for SEC's described above, the Board finds that it is in the public interest to relieve charter organizers from provisions of the Act to the extent set forth in § 369.21 of the rule. Both U.S. direct carriers holding certificates and foreign direct carriers holding permits would be authorized to perform SEC's, and split charters would be permitted. Accordingly, we are also proposing authorizing and implementing amendments to the basic charter regulations applicable to the direct carriers (Parts 207, 208, 212, and 214 and implementing amendments are also proposed for Parts 217 (Reporting Data Pertaining to Civil Aircraft Charters Performed by Foreign Air Carriers), Part 241 (Uniform System of Accounts and Reports for Certificated Air Carriers), Part 249 (Preservation of Air Carrier Accounts, Records and Memoranda), and Part 389 (Fees and Charges for Special Services)).⁴

Most of the proposed provisions of the new part have been adopted from pertinent provisions of other special charter rules, and we shall generally confine the discussion below to features peculiar to SEC's.

1. *Definition of "Special Event".* The definition of "special event" in § 369.2 requires that the event be specific and significant. Although not a condition, the definition also provides that a special event may be of a sporting social, religious, educational, cultural, or political nature. A special event would not be restricted to events of the nature described, but the provision is intended to indicate generally the types of events which would be embraced in the SEC concept.

The definition of "special event" contains three conditions. First, the event must not extend over ten days in duration. This condition is designed to assure that an event continuing over a protracted period, such as a world's fair, is not used as a pretext for accommodating on SEC's persons whose purpose is solely to be transported to and from the place where such an event is held and with no intent to attend the event. The condition is considered necessary to prevent SEC's from being used for point-to-point air transportation. However, SEC's to events of a continuing nature could be granted by waiver under § 369.3 where, for example, it is shown that there is little or no likelihood that persons on a contemplated SEC will deliberately fail to

attend the event or otherwise use an SEC for point-to-point air transportation. It is also to be noted that TGC's are ordinarily available with respect to events of a continuing nature.

Second, the event must not be created for the primary purpose of generating air travel or promoting tourism; and third, it must not be sponsored by a direct air carrier, charter organizer, or any person engaged in the business of providing accommodations for tourists. These conditions are designed to discourage SEC's from being used for events "manufactured" by persons with an economic interest in promoting travel or tourism to the place where the event would take place. In other words, the conditions would tend to ensure that the event which provides the legal basis for charter is not merely a pretext for the furnishing of charter transportation for purposes unrelated to the event.

2. *General conditions and limitations.* General conditions and limitations on SEC's are set forth in Subpart B of the proposed new part. Section 369.10 provides that a charter organizer shall be an independent principal and not the agent for direct air carriers. This provision, which would insure the independence of charter organizers from direct air carriers, is similar to requirements in the ITC and TGC rules.⁵ The passenger, seat, and group limitations of § 369.11 and the intermingling restriction of § 369.12 have been adopted from other special charter rules,⁶ and need no discussion here.

Section 369.13 (Air transportation limitations) is intended to assure that air transportation on SEC's is not used for a purpose other than to transport charter participants to and from the place where a special event is to take place. Specifically, the charter must be on a round-trip basis; air transportation shall be provided only to and from the city or metropolitan area in which the special event takes place and/or to and from the airport located closest to the event; and open jaw or circle trips are not permitted. To further ensure that SEC's are not used for point-to-point air transportation, § 369.14(a) requires a maximum duration between the day the departing flight takes off for the destination and the day the returning flight lands at the originating point of ten days except for North American charters, for which the maximum duration shall be seven days. And § 369.14(b) provides that the departing flight shall arrive at the destination no earlier than 36 hours prior to the commencement of the special event and the returning flight shall take off no later than 36 hours after the termination of the event.

Section 369.15 (Charter price per passenger) would normally require a

² Docket 21255. To the extent indicated herein the proposal is granted and is otherwise denied.

⁴ The amendments to Part 389 would also delete reference to Part 378a, Bulk Inclusive Tours by Tour Operators. In effect, this part has expired by its terms. (See § 378a.4.)

⁵ Section 378.2(b)(6) and 372a.10(a).

⁶ See, e.g., Sections 372a.10(b), 372a.10(b), 372a.17 and 378.2(b)(5).

charter participant to purchase an all-inclusive package trip, and is an additional provision to minimize the use of SEC's for point-to-point air transportation. It provides that the charter price per passenger includes charges for (a) air transportation; (b) all necessary ground transportation at the destination; (c) hotel accommodations; (d) the price of a ticket and any other event-related fee necessary for admission to the event; (e) any other ground services and accommodations, at the option of the charter organizer; and (f) compensation to the charter organizer. However, when the flight arrives at the destination and departs on the return leg on the same day, the charter price need not include the charges described in § 369.15 (b) or (c).

3. *Requirements applicable to charter organizer.* Subpart C of the proposed new part sets forth the requirements applicable to the charter organizer. Section 369.20 provides that a charter organizer shall not be the sponsor of a special event, nor an employee of, or affiliated with, such sponsor, nor shall a charter organizer receive direct or indirect compensation from the sponsor for arranging charter flights to the special event. As noted above, the definition of "special event" requires that it not be sponsored by a charter organizer, and the provision here that a charter organizer shall not be the sponsor of a special event merely emphasizes the point. However, the provision goes further to insulate a charter organizer from the sponsor of a special event. The purpose, of course, is to preclude charter organizers from having an interest in promoting travel or tourism to a place where a special event is to take place which is not related to transportation for the specific purpose of attending a special event.

Other provisions of Subpart C are patterned after pertinent provisions of other special charter rules, but we take note of the following.

There are no restrictions as to the scope of advertising and solicitation, and solicitation of the general public is permitted. Nevertheless, § 369.26 (Solicitation and advertising) includes a prohibition that a charter organizer shall not sell or offer to sell, solicit, or advertise a charter or charters until and unless a Statement of Authorization to conduct such a charter or charters has been issued to the direct air carrier as provided in § 369.40.

Section 369.28 (Surety bond and depository agreement) contains provisions peculiar to SEC's. Section 369.28(a) would require a bond in an amount not less than the charter price for the air transportation. Section 369.28(b) (i) provides that, in lieu of such a surety bond, if the charter involves air transportation only, a bond is required in the amount of \$5,000 per round-trip charter flight, up to a maximum of \$50,000 for a series of more than 10 or more round-trip charter flights; but if the charter involves ground accommodations or serv-

ices in addition to transportation, a bond is required in the amount of \$10,000 per round-trip charter flight, up to a maximum of \$100,000 for a series of 10 or more round-trip charter flights. Where the bond requirements of § 369.28(b) (i) are opted for, § 369.28(b) (2), would require the same type of depository agreement provided in Part 378.

4. *Requirements applicable to direct air carriers.* Requirements applicable to direct air carriers are contained in Subpart D of the proposed Part 369. The most significant feature of this Subpart is the prior approval requirement. We believe that, at least initially, a prior approval requirement is necessary to insure that SEC operations are consistent with the definition of "special event" and to monitor the activities of charter organizers.

Accordingly, § 369.40 prohibits a direct air carrier from operating SEC's unless specific authority in the form of a Statement of Authorization to operate such charters has been issued by the Board. And § 369.41 sets forth the requirements governing applications for a Statement of Authorization. The remaining provisions of this subpart are adapted from other special charter regulations and are believed self-explanatory.

5. *Post-charter trip reporting.* Subpart E contains post-charter trip reporting requirements. It has been adapted from § 378.20, and is self-explanatory.

It is proposed to adopt a new Part 369 of the Special Regulations and to amend Parts 207, 208, 212, 214, 217, 241 and 249 of the Economic Regulations and Part 389 of the Organization Regulations, as follows:

PART 207—CHARTER TRIPS AND SPECIAL SERVICES

1. Amend § 207.11 by adding new paragraphs (b) (9) (c) (7) to read as follows:

§ 207.11 Charter flight limitations.

(b) * * *

(9) By a special event charter organizer as defined in Part 369 of this chapter, or

(c) * * *

(7) By a special event charter organizer as defined in Part 369 of this chapter: *Provided*, That with respect to paragraph (c) of this section each person engaging less than the entire capacity of an aircraft shall contract and pay for 40 or more seats: *And provided further*, That paragraph (c) shall not be construed to apply to movements of property.

* Section 369.2 ("Definitions") provides that the term "ground accommodations or services" includes, but is not limited to, provision of hotel accommodations, ground transportation at the destination, and admission to a special event through the furnishing of a ticket or other document necessary to enable a charter participant to attend the event. As indicated earlier, a charter involving air transportation only would be relatively rare.

PART 208—TERMS, CONDITIONS AND LIMITATIONS OF CERTIFICATES TO ENGAGE IN SUPPLEMENTAL AIR TRANSPORTATION

2. Amend § 208.6 by adding new paragraphs (b) (8) and (c) (7) to read as follows:

§ 208.6 Charter flight limitations.

Charter flights in air transportation performed by supplemental air carriers shall be limited to the following:

(b) * * *

(8) By a special event charter organizer as defined in Part 369 of this chapter.

(c) * * *

(7) By a special event charter organizer as defined in Part 369 of this chapter: *Provided*, That with respect to paragraph (c) of this section each person engaging less than the entire capacity of an aircraft shall contract and pay for 40 or more seats: *And provided further*, That paragraph (c) shall not be construed to apply to movements of property.

PART 212—CHARTER TRIPS BY FOREIGN AIR CARRIERS

3. Amend § 212.8 by adding new paragraphs (a) (9) and (b) (7) to read as follows:

§ 212.8 Charter flight limitations.

(a) * * *

(9) By a special event charter organizer as defined in Part 369 of this chapter.

(b) * * *

(7) By a special event charter organizer as defined in Part 369 of this chapter: *Provided*, That with respect to paragraph (b) of this section each person engaging less than the entire capacity of an aircraft shall contract and pay for 40 or more seats: *And provided further*, That paragraph (b) shall not be construed to apply to movements of property.

PART 214—TERMS, CONDITIONS AND LIMITATIONS OF FOREIGN AIR CARRIER PERMITS AUTHORIZING CHARTER TRANSPORTATION ONLY

4. Amend § 214.7 by adding new paragraphs (a) (6) and (b) (6) to read as follows:

§ 214.7 Charter-flight limitations.

(a) * * *

(6) By a special event charter organizer as defined in Part 369 of this chapter.

(b) * * *

(6) By a special event charter organizer as defined in Part 369 of this chapter: *Provided*, That paragraph (b) of this section shall not apply with respect to any foreign air carrier to the extent that its permit authorizes it to engage in "plane-load" charter foreign air transportation of persons: *Provided further*, That with respect to paragraph (b) of this section each person engaging

less than the entire capacity of the aircraft shall contract any pay for 40 or more seats.

PART 217—REPORTING DATE PERTAINING TO CIVIL AIRCRAFT CHARTERS PERFORMED BY FOREIGN AIR CARRIERS

5. Amend § 217.6 by adding new paragraph (b) (10) to read as follows:

§ 217.6 Reporting instructions.

(b) * * *

(10) Special event charter, as defined in Part 369 of this chapter (Board's Special Regulations).

PART 241—UNIFORM SYSTEM OF ACCOUNTS AND REPORTS FOR CERTIFIED AIR CARRIERS

6. Amend Schedule T-6—Summary of Civil Aircraft Charters in Section 25—Traffic and Capacity Elements, by adding a new paragraph (c) (9) to read as follows:

Schedule T-6—Summary of civil aircraft charters

(c) * * *

(9) Special event charter, as defined in Part 369 of the Board's Special Regulations.

7. Amend Schedule T-6—Summary of Civil Aircraft Charters in Section 35—Traffic and Capacity Elements, by adding a new paragraph (b) (9) to read as follows:

Schedule T-6—Summary of civil aircraft charters

(b) * * *

(9) Special event charter, as defined in Part 369 of the Board's Special Regulation.

PART 249—PRESERVATION OF AIR CARRIER ACCOUNTS, RECORDS AND MEMORANDA

8. Amend § 249.2 by inserting in alphabetical order a new definition of "special event charter organizer" to read as follows:

§ 249.2 Definitions.

"Special event charter organizer" means (1) any citizen of the United States, as defined in section 101(13) of the Act (other than a direct air carrier) who is authorized under Part 369 to engage in the formation of groups for transportation on special event charters in accordance with the provisions of Part 369; or (2) any person not a citizen of the United States, as defined in section 101(13) of the Act (other than a direct foreign air carrier) who is engaged in the formation of groups for transportation on special event charters which originate in the United States in accordance with the provisions of Part 369, and who holds a permit issued pursuant to section 402 of the Act authorizing such transportation.

9. Amend § 249.9 by revising the heading and adding a new paragraph (e) to read as follows:

§ 249.9 Period of preservation of records by tour operators, study group charters, overseas military personnel charter operators, travel group charter organizers, and special event charter organizers.

(e) Every special event charter organizer (as defined in § 249.2) conducting a special event charter pursuant to Part 369 of this chapter shall retain for two years after completion of a charter or a series of charters true copies of the following documents at its principal or general office in the United States and shall make them available upon request by an authorized representative of the Board:

(1) All receipts and statements of travel agents, and all other documents which evidence or reflect deposits made by each charter participant;

(2) All receipts and statements of travel agents, and all other documents which evidence or reflect commissions received, paid to, or deducted by travel agents in connection with the charter or series of charters; and

(3) All statements, invoices, bills, and receipts from suppliers for furnishing of goods or services in connection with the charter or series of charters.

10. Adopt a new Part 369 of the Special Regulations to read as follows:

PART 369—SPECIAL EVENT CHARTERS

Subpart A—General Provisions

Sec.
369.1 Applicability.
369.2 Definitions.
369.3 Waivers.
369.4 Enforcement.

Subpart B—General Conditions and Limitations

369.10 Charter organizer an independent principal.
369.11 Passenger, seat, and group limitations.
369.12 No intermingling of passengers.
369.13 Air transportation limitations.
369.14 Duration.
369.15 Charter price per passenger.
369.16 Payment to direct air carrier(s).
369.17 Unused space.

Subpart C—Requirements Applicable to Charter Organizers

369.20 Charter organizer distinct from event sponsor.
369.21 Exemption.
369.22 Approval of certain interlocking relationships.
369.23 Effect of exemption on antitrust laws.
369.24 Jurisdiction over foreign charter organizers.
369.25 Suspension of exemption authority.
369.26 Solicitation and advertising.
369.27 Contract between charter organizer and charter participants.
369.28 Surety bond and depository agreement.
369.29 Disbursements from depository account.
369.30 Reporting requirements.
369.31 Discrimination.
369.32 Methods of Competition.
369.33 Record retention.

Subpart D—Requirements Applicable to Direct Air Carriers

Sec.
369.40 Statement of authorization.
369.41 Application for statement of authorization.
369.42 Charter contract.
369.43 Tariffs to be filed for charter trips.
369.44 No commissions to be paid.

Subpart E—Post-Charter Trip Reporting Requirements

369.50 Post-charter trip reporting.

Subpart A—General Provisions

§ 369.1 Applicability.

This part establish the terms and conditions governing the furnishing of special event charters in air transportation by direct air carriers and foreign air carriers and by special event charter organizers. This part also relieves such charter organizers (other than foreign charter organizers) from various provisions of Title IV of the Federal Aviation Act of 1958, as amended, for the purpose of enabling them to provide special event charters utilizing aircraft chartered from such direct carriers. It also contains a limited declination of exercise of jurisdiction over foreign charter organizers. The provisions of this regulation shall not be construed as limiting any other authority to engage in air transportation issued by the Board. Nothing contained in this part shall be construed as repealing or amending any provisions of any of the Board's regulations, unless the context so requires.

§ 369.2 Definitions.

As used in this part, unless the context otherwise requires—

"Charter" means a special event charter.

"Charter organizer" means a special event charter organizer.

"Charter participant" means a member of a group consisting solely of persons having the common purpose of attending a special event who are assembled by a charter organizer to participate as a single unit in a special event charter.

"Direct air carrier" means (1) an air carrier holding a certificate of public convenience and necessity issued pursuant to Section 401 of the Act, or (2) a foreign air carrier which holds a permit issued under Section 402 of the Act.

"Foreign charter organizer" means any person not a citizen of the United States, as defined in section 101(13) of the Act (other than a direct foreign air carrier) who is (1) engaged in the formation of groups for transportation on special event charters which originate in a foreign country and over whom the Board has declined to exercise its jurisdiction, or (2) engaged in the formation of groups for transportation on special event charters which originate in the United States and who holds a permit issued pursuant to section 402 of the Act authorizing such transportation.

"Ground accommodations and services" include, but are not limited to, the provision of hotel accommodations, ground transportation at the destination, and admission to a special event through

the furnishing of a ticket or other document necessary to enable a charter participant to attend the event.

"North American charter" means a special event charter between a point or points in any State of the United States, the District of Columbia, Puerto Rico, or the U.S. Virgin Islands, on the one hand, and a point or points in any other State of the United States or in Canada, Mexico, or the "Islands of the Caribbean" (as defined in Part 207 (14 CFR Part 207)), on the other hand.

"Person" means any individual, firm, association, partnership or corporation.

"Special event" means a specific, significant event, including events of a sporting, social, religious, educational, cultural, or political nature, (1) which does not extend over ten (10) days in duration, (2) which is not created for the primary purpose of generating air travel or promoting tourism, and (3) which is not sponsored by a direct air carrier, charter organizer, or any person engaged in the travel business or in the business of providing accommodations for tourists.

"Special event charter" means a round-trip charter to be performed by one or more direct air carriers, which is arranged and sponsored by a charter organizer for a group having the common purpose of attending a special event, and which meets the requirements set forth in Subpart B of this part.

"Special event charter organizer" means (1) any citizen of the United States, as defined in section 101(13) of the Act (other than a direct air carrier), who is authorized hereunder to engage in the formation of groups for transportation on special event charters in accordance with the provisions of this part; or (2) a foreign special event charter organizer.

§ 369.3 Waivers.

A waiver of any of the provisions of this part may be granted by the Board upon its own initiative, or upon the joint submission by a direct air carrier and a charter organizer of a written request therefor not less than 30 days prior to the flight to which it relates, provided that such a waiver is in the public interest and it appears to the Board that special or unusual circumstances warrant a departure from the provisions set forth herein. Notwithstanding the foregoing, waiver applications filed less than 30 days prior to a flight may be accepted by the Board in emergency situations in which the circumstances warranting a waiver did not exist 30 days before the flight.

§ 369.4 Enforcement.

In case of any violation of the provisions of the Act, or of this part, or any other rule, regulation or order issued under the Act, the violator may be subject to a proceeding pursuant to sections 1002 and 1007 of the Act before the Board or a U.S. District Court, as the case may be, to compel compliance therewith, to civil penalties pursuant

to the provisions of section 901(a) of the Act, or to criminal penalties pursuant to the provisions of section 902(a) of the Act; or other lawful sanctions.

Subpart B—General Conditions and Limitations

§ 369.10 Charter organizer and independent principal.

The charter trip shall be arranged and sold by a charter organizer as an independent principal with respect to the air transportation included in the charter and not as an agent for a direct air carrier.

§ 369.11 Passenger, seat, and group limitations.

(a) Passengers transported pursuant to a special event charter shall consist solely of charter participants.

(b) The charter contract must be for 40 or more seats.

(c) An aircraft under charter to one charter organizer may carry any number of charter groups, provided that each of the groups consists of 40 or more charter participants.

§ 369.12 No intermingling of passengers.

One-way passengers shall not be carried, there shall be no intermingling of passengers, and each planeload group, or less than planeload group, shall move together as a group in both directions, except under emergency conditions provided for in the basic charter regulations applicable to the direct air carrier under Part 207, 208, 212, or 214 of this chapter.

§ 369.13 Air transportation limitations.

(a) The charter must be on a round-trip basis, but the departing flight and the returning flight need not be performed by the same direct air carrier.

(b) Air transportation shall be provided only to and from the city or metropolitan area in which the special event takes place and/or to and from the airport located closest to the event. Open jaw or circle trips are not permitted.

§ 369.14 Duration.

(a) There shall be a maximum duration between the day the departing flight takes off for the destination and the day the returning flight lands at the originating point of ten (10) days, except for North American charters, for which the maximum duration shall be seven (7) days.

(b) The departing flight shall arrive at the destination no earlier than 36 hours prior to the commencement of the special event and the returning flight shall take off no later than 36 hours after the termination of the event.

§ 369.15 Charter price per passenger.

The charter price per passenger shall include charges for:

- (a) Air transportation;
- (b) All necessary ground transportation at the destination (e.g., from and to the airport and to and from the site of the event);

(c) Hotel accommodations commencing on the day the flight arrives at the destination and ending on the day the flight departs on the return leg;

(d) The price of a ticket and any other fee necessary for admission to the event;

(e) Any other ground services and accommodations provided at the option of the charter organizer; and

(f) Compensation to the charter organizer: *Provided, however,* That when the flight arrives at the destination and departs on the return leg on the same day, the charter price need not include the charges described in paragraphs (b) or (c) of this section.

§ 369.16 Payment to direct air carrier(s).

The direct air carrier shall be paid in full for the cost of the round-trip charter transportation prior to the scheduled date of flight departure, as provided in the basic charter regulations applicable to the direct air carriers under Parts 207, 208, 212, or 214 of this chapter.

§ 369.17 Unused space.

Nothing contained in this part shall preclude a charter organizer from utilizing any unused space on an aircraft chartered by it for a special event charter for the transportation, on a free or reduced basis, of such charter organizer's employees, directors, and officers, and the parents and immediate families of such persons, subject to the provisions of Part 223 of this chapter.

Subpart C—Requirements Applicable to Charter Organizers

§ 369.20 Charter organizer distinct from event sponsor.

A charter organizer shall not be the sponsor of a special event, nor an employee of, or affiliated with, such sponsor, nor shall a charter organizer receive direct or indirect compensation from the sponsor for arranging a charter flight to the special event.

§ 369.21 Exemption.

Subject to the provisions of this part and the conditions imposed herein, charter organizers (other than foreign charter organizers) are hereby relieved from the following provisions of Title IV of the Federal Aviation Act of 1958, as amended, to the extent necessary to permit them to organize and arrange special event charters:

- Section 401.
- Section 403.
- Section 404(a), except the requirement to provide adequate service in connection with special event charters operated hereunder.
- Section 405(b).
- Sections 407(b) and (c).
- Sections 408(a) and 409, except control or interlocking relationships with direct air carriers.
- Section 412.

§ 369.22 Approval of certain interlocking relationships.

To the extent that any officer or director of a charter organizer would be in

violation of any of the provisions of sections 409(a) (3) and (6) of the Act by participating in interlocking relationships covered by the exemption granted by § 369.21, such participation is hereby approved by the Board.

§ 369.23 Effect of exemption on anti-trust laws.

The relief granted by §§ 369.21 and 369.22 from sections 408, 409 and 412 of the Act shall not constitute an order under such sections within the meaning of section 414 of the Act and shall not confer any immunity or relief from operation of the "antitrust laws" or any other statute (except the Act) with respect to any transaction, interlocking relationship, or agreement otherwise within the purview of such sections.

§ 369.24 Jurisdiction over foreign charter organizers.

The Board declines to exercise its jurisdiction over foreign charter organizers with respect to special event charters which originate in a foreign country. The Board reserves the right to exercise its jurisdiction over any foreign charter organizer at any time if it finds that such action is in the public interest.

§ 369.25 Suspension of exemption authority.

The Board reserves the power to suspend the exemption authority of any charter organizer, without hearing, if it finds that such action is necessary in order to protect the rights of the traveling public.

§ 369.26 Solicitation and advertising.

(a) A charter organizer shall not sell or offer to sell, solicit or advertise a charter or charters until and unless a Statement of Authorization to conduct such charter or charters has been issued to the direct air carrier, as provided in § 369.40.

(b) All sales, advertising and solicitation materials employed by the charter organizer shall state the name of the direct air carrier or carriers utilized.

(c) If the charter involves ground accommodations and services in addition to air transportation, advertising by charter organizers of charter trip prices shall be limited to the total trip price without a breakdown into component parts, except that additional charges for optional services or facilities may be reflected.

(d) When the combined surety bond-depository agreement, as provided in § 369.28(b), is used in connection with a special event charter, a statement as to whom checks and money orders are to be made payable, as provided in § 369.27(k), shall be placed in all solicitation material, reservation coupons, etc.

§ 369.27 Contract between charter organizer and charter participants.

Where each charter participant receives, or is eligible to receive, the same ground accommodations, the contract between the charter organizer and the charter participants shall be the same.

Contracts between charter organizers and charter participants shall include provisions specifically stating:

(a) Method of payment, e.g., installment payments;

(b) That trip health and accident insurance is available and that upon request the charter organizer will furnish details thereof;

(c) The right to refunds in the event of the charter's cancellation and the procedure for obtaining such refunds;

(d) The right to refunds in the event of the participant's change of plans and the procedure for obtaining such refunds;

(e) The right to refunds in the event of change in itinerary and the procedure for obtaining such refunds;

(f) The dollar amounts of the direct air carrier's liability limitations for participants' baggage, as set forth in the direct air carrier's tariffs;

(g) Aircraft-equipment substitutions;

(h) The name and address of the surety company issuing the surety bond;

(i) That the charter organizer is the principal and is responsible to the participants in making arrangements for all services and accommodations offered in connection with the charter: *Provided, however,* That this requirement shall not preclude the charter organizer from expressly providing in such contract that, in the absence of negligence on the part of the charter organizer, he is not responsible for personal injury or property damage arising out of the act or negligence of any direct air carrier, hotel or other person rendering any of the services being offered in connection with such charter;

(j) That unless the charter participant files a claim with the charter organizer or, if he is unavailable, with the surety, within sixty (60) days after termination of the charter, the surety shall be released from all liability under the bond to such participant (see § 369.28(d));

(k) That, when the combined surety bond-depository agreement, as provided in § 369.28(b) is used in connection with the charter, all checks and money orders must be made payable to the escrow account at the depository bank (identifying bank) or, when the charter trip is sold to the participant by a retail travel agent, checks and money orders may be made payable to the agent, who must in turn make his check payable to the escrow account at the depository bank.

§ 369.28 Surety bond and depository agreement.

(a) Except as provided in paragraph (b) of this section, a charter organizer (other than a foreign charter organizer over whom the Board has declined to exercise jurisdiction) shall furnish a bond in an amount of not less than the charter price for the air transportation to be furnished in connection with a charter or series of charters: *Provided, however,* That the liability of the surety to any charter participant shall not exceed the amounts paid by such charter participant to the charter organizer with respect to the charter.

(b) In lieu of furnishing a surety bond as provided in paragraph (a) of this section, the direct air carrier(s) and the charter organizer (other than a foreign charter organizer over whom the Board has declined to exercise jurisdiction) may elect to comply with the requirements of paragraph (b) (1) and (b) (2) of this section as follows:

(1) A surety bond in the following minimum amounts: (i) If the charter is for air transportation only, a bond in the amount of \$5,000 per round-trip charter flight, up to a maximum of \$50,000 for a series of 10 or more round-trip charter flights; or (ii) if the charter involves ground accommodations and services in addition to air transportation, a bond in the amount of \$10,000 per round-trip charter flight, up to a maximum of \$100,000 for a series of 10 or more round-trip charter flights: *Provided, however,* That the liability of the surety to any charter participant shall not exceed the amounts paid by such charter participant with respect to the charter; and

(2) The direct air carrier and charter organizer shall enter into an agreement with a designated bank, the terms of which shall provide that all deposits by charter participants paid to charter organizers and their retail travel agents shall be deposited with and maintained by the bank subject to the following conditions:

(i) On sales made to charter participants by charter organizers the participant shall pay by check or money order payable to the bank; on sales made to charter participants by retail travel agents, the retail travel agent may deduct his commission and remit the balance to the designated bank by check or money order: *Provided,* That the travel agent agrees in writing with the charter organizer that, if the charter is canceled, the travel agent shall remit to the bank the full amount of commission previously deducted or received within 10 days after receipt of notification of cancellation of the charter;

(ii) The bank shall pay the direct air carrier the charter price for the transportation not earlier than 60 days (including day of departure) prior to the scheduled day of departure of the originating or returning flight, upon certification of the departure date by the direct air carrier: *Provided,* That, in the case of a round-trip charter contract to be performed by one carrier, the total round-trip charter price shall be paid to the carrier not earlier than 60 days prior to the scheduled day of departure of the originating flight;

(iii) The bank shall reimburse the charter organizer for refunds made by the latter to the charter participants upon written notification from the charter organizer;

(iv) If the charter organizer or the direct air carrier notifies the bank that a tour has been canceled, the bank shall make applicable refunds directly to the charter participants;

(v) After the charter price has been paid in full to the direct air carrier, the

bank shall pay funds from the account directly to the hotels, sightseeing enterprises, or other persons or companies furnishing ground accommodations or services in connection with the charter or series of charters upon presentation to the bank of vendors' bills and upon certification by the charter organizer of the amounts payable for such ground accommodations or services and the persons or companies to whom payment is to be made: *Provided, however,* That the total amounts paid by the bank pursuant to paragraph (b) (2) (ii) and (b) (2) (v) of this section shall not exceed 80 percent of the total deposits received by the bank less any refunds made to charter participants pursuant to paragraphs (b) (2) (iii) and (b) (2) (iv) of this section;

(vi) As used in this section, the term "bank" includes a bank, savings and loan association, or other financial institution insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation;

(vii) The bank shall maintain a separate accounting for each tour;

(viii) Notwithstanding any provisions above, the amount of total deposits required to be maintained in the depository account of the bank may be reduced by one or both of the following: the amount of any surety bond in the form prescribed herein in excess of the minimum bond required by paragraph (b) (1) of this section; an escrow with the designated bank of Federal, State, or municipal bonds or other negotiable securities which are publicly traded on a securities exchange: *Provided,* That such other securities shall be substituted for cash in an amount no greater than 80 percent of their market value at time of deposit in escrow with the bank: *And provided, further,* That should the valuation of such other securities decrease in an amount in excess of 20 percent of the valuation at time of original deposit, additional securities shall be placed in escrow so as to compensate for such decrease in value below 20 percent;

(ix) Except as provided in paragraphs (b) (2) (ii), (iii), (iv), (v), and (viii) of this section, the bank shall not pay out any funds from the account prior to two banking days after completion of each charter, when the balance in the account shall be paid to the charter organizer, upon certification of the completion date by the direct air carrier.

(c) The bond required under paragraphs (a) and (b) of this section shall insure the financial responsibility of the charter organizer and the supplying of the transportation and all other accommodations, services, and facilities in accordance with the contract between the charter organizer and the charter participants, and shall be in the form attached hereto as Appendix A. Such bond shall be issued by a bonding or surety company (1) whose surety bonds are accepted by the Interstate Commerce Commission under 49 CFR 1084.6; or (2) which is listed in Best's Insurance Reports (Fire and Casualty) with a general policyholders' rating of "A" or better.

The bonding or surety company shall be one legally authorized to issue bonds of that type in the State in which the charter trip originates. For purposes of this section, the term "State" includes any territory or possession of the United States, or the District of Columbia. The bond shall be specifically identified by the issuing surety with a company bond numbering system so that the Board may identify the bond with the specific charter or charters to which it relates: *Provided, however,* That these data may be set forth in an addendum attached to the bond which addendum must be signed by the charter organizer and the surety company. It shall be effective on or before the date the application for a Statement of Authorization is filed with the Board by the direct air carrier pursuant to § 369.41. If the bond does not comply with the requirements of this section, or for any reason fails to provide satisfactory or adequate protection for the public, the Board will notify the direct air carrier and the charter organizer by registered or certified mail, stating the deficiencies of the bond. Unless such deficiencies are corrected within the time set forth in such notification, the subject charter or charters shall in no event be operated.

(d) The bond required by this section shall provide that unless the charter participant files a claim with the charter organizer, or, if he is unavailable, with the surety, within sixty (60) days after termination of the charter, the surety shall be released from all liability under the bond to such charter participant. The contract between the charter organizer and the charter participant shall contain notice of this provision.

§ 369.29 Disbursements from depository account.

No charter organizer shall cause its agents or the depository bank to make disbursements or payments from charter-participant deposits except in accordance with the provisions of this part.

§ 369.30 Reporting requirements.

If a charter organizer relies upon the bond-depository option of § 369.28(b) for compliance with the requirements of that section, the following monthly reports shall be filed with the Board's Bureau of Operating Rights (Supplementary Services Division) not later than the 10th day of the month succeeding the reporting period: (a) By the depository bank, showing separately for each charter, identified by departure date, the total amount of deposits received and disbursed during the reporting period and the balance in the depository account at the end of the reporting period; and (b) by the charter organizer, showing separately for each charter, identified by departure date, the total amount of customer deposits received by him or his agents, the amount of commissions repaid by said agents to the depository account, and the amount of refunds made by the charter organizer or the bank to charter participants: *Provided,* That the depository bank may, in lieu of

paragraph (a) of this section, elect to file a duplicate monthly statement of the same type it provides to depositors showing the information as specified in paragraph (a) of this section. When so selected, the reporting period for the charter organizer in paragraph (b) of this section shall correspond to the reporting period of the bank. The term "bank" shall have the meaning set forth in § 369.28(b) (2) (vi). The reports shall be certified by the officer in charge of the bank's or the charter organizer's accounts, and the certification shall be in the following form:

I, the undersigned _____
(Title of officer in charge of accounts)
of the _____
(Full name of reporting company)
do certify that this report and all supporting documents which, are submitted herewith, filed for the above indicated period, have been prepared by me or under my direction; that I have carefully examined them and declare that, to the best of my knowledge and belief, the information contained therein is complete and accurate.

(Signature)

(Bank or Charter Organizer's
Post office Address)
Date _____, 19____

§ 369.31 Discrimination.

No charter organizer shall make, give, or cause any undue or unreasonable preference or advantage to any particular person, port, locality, or description of traffic in air transportation in any respect whatsoever, or subject any particular person, port, locality or description of traffic in air transportation to any unjust discrimination or any undue or unreasonable prejudice or disadvantage in any respect whatsoever.

§ 369.32 Methods of competition.

No charter organizer shall engage in unfair or deceptive practices or unfair methods of competition in air transportation or the sale thereof.

§ 369.33 Record retention.

(a) Every charter organizer conducting a charter pursuant to this part shall retain for two years after completion of a charter or series of charters true copies of the following documents at its principal or general office in the United States:

(1) All receipts and statements of travel agents, and all other documents which evidence or reflect deposits made by each charter participant;

(2) All receipts and statements of travel agents, and all other documents which evidence or reflect commissions received by, paid to, or deducted by travel agents in connection with the charter or series of charters; and

(3) All statements, invoices, bills, and receipts from suppliers or furnishers of goods or services in connection with the charter or series of charters.

(b) Every charter organizer shall make the documents listed in this section available in the United States upon request by an authorized representative of

the Board and shall permit such representative to make such notes and copies thereof as he deems appropriate.

Subpart D—Requirements Applicable To Direct Air Carriers

§ 369.40 Statement of authorization.

A direct air carrier shall not operate a special event charter or charters unless specific authority in the form of a Statement of Authorization to operate such charter or charters has been issued by the Board.

§ 369.41 Application for statement of authorization.

(a) Application for a Statement of Authorization shall be submitted by the direct air carrier or carriers in the form attached hereto as Appendix B, addressed to the attention of the Director, Bureau of Operating Rights. If a series of charters is to be operated for one charter organizer pursuant to one charter contract, the application may cover the entire series.

(b) The application shall be filed at least 30 days before commencement of the charter or series of charters. Late filing of the application will not be permitted except for good cause shown.

(c) The application shall be filed in triplicate and shall include two copies of the following:

(1) The charter contract between the direct air carrier and the charter organizer;

(2) The contract between the charter organizer and the charter participants;

(3) Samples of solicitation material proposed to be used by the charter organizer; and

(4) The charter organizer's surety bond (an original bond and a copy thereof) and, where applicable, the depository agreement with a bank, as provided in § 369.28(b) (2).

§ 369.42 Charter contract.

(a) The charter contract between the charter organizer and the direct air carrier shall evidence a binding commitment on the part of the latter to furnish the air transportation required for the charter or charters covered by the contract.

(b) If air transportation is provided by more than one direct air carrier, there shall be a single charter contract to which the charter organizer and all such direct air carriers (acting jointly and severally) shall be parties.

§ 369.43 Tariffs to be filed for charter trips.

No direct air carrier shall perform any charter trips pursuant to this part unless such air carrier shall have on file with the Board a currently effective tariff showing all rates, fares and charges for such charter trips.

§ 369.44 No commissions to be paid.

No commissions, fees, or other compensation shall be paid by the direct air carrier to the charter organizer or any other person in connection with a charter trip.

Subpart E—Post-Charter Trip Reporting Requirements

§ 369.50 Post-charter trip reporting.

(a) Not later than 30 days following the completion of the charter(s), the direct air carrier and charter organizer shall jointly file with the Board (Supplementary Services Division, Bureau of Operating Rights) a post-charter trip report in the form attached hereto as Appendix C. To the extent that the operations differed from those described in the application for a Statement of Authorization submitted under § 369.41, such differences shall be fully detailed including the reasons therefor: *Provided, however, That any such explanation shall not of itself operate as authority for an excuse for any such deviation.*

(b) The direct air carrier shall promptly notify the Board regarding any charters for which a Statement of Authorization has been issued and which are later canceled.

APPENDIX A

SPECIAL EVENT CHARTER ORGANIZER'S SURETY BOND UNDER PART 369 OF THE SPECIAL REGULATIONS OF THE CIVIL AERONAUTICS BOARD (14 CFR PART 369)

KNOW ALL MEN BY THESE PRESENTS, that we _____ of _____

(Name of special event charter organizer) (City)

as PRINCIPAL (hereinafter called (State)

Principal), and _____ a corporation (Name of Surety)

created and existing under the Laws of the State of _____ as SURETY (hereinafter (State)

called Surety) are held and firmly bound unto the United States of America in the sum of _____ for which payment, well

(see § 369.28 of Part 369)

and truly to be made, we bind ourselves and our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal intends to become a special event charter organizer pursuant to the provisions of Part 369 of the Board's Special Regulations and other rules and regulations of the Board relating to insurance or other security for the protection of special event charter participants, and has elected to file with the Civil Aeronautics Board such a bond as will insure financial responsibility with respect to all monies received from charter participants for services in connection with a special event charter to be operated subject to Part 369 of the Board's Special Regulations in accordance with contracts, agreements, or arrangements therefor, and

Whereas, this bond is written to assure compliance by the Principal as an authorized special event charter organizer with Part 369 of the Board's Special Regulations, and other rules and regulations of the Board relating to insurance or other security for the protection of charter participants, and shall inure to the benefit of any and all charter participants to whom the Principal may be held legally liable for any of the damages herein described.

Now, therefore, the condition of this obligation is such that if the Principal shall pay or cause to be paid to charter participants any sum or sums for which the Principal may be held legally liable by reason of the Principal's failure faithfully to perform, fulfill, and carry out all contracts, agreements, and

arrangements made by the Principal while this bond is in effect with respect to the receipt of monies from charter participants and the proper disbursement thereof pursuant to and in accordance with the provisions of Part 369 of the Board's Special Regulations, then this obligation shall be void, otherwise to remain in full force and effect.

The liability of the Surety with respect to any charter participant shall not exceed the charter price (as defined in Part 369 of the Board's Special Regulations) paid by or on behalf of such participant.

The liability of the Surety shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penalty of the bond, but in no event shall the Surety's obligation hereunder exceed the amount of said penalty. The Surety agrees to furnish written notice to the Civil Aeronautics Board forthwith of all suits filed, judgments rendered, and payments made by said surety under this bond.

The bond shall cover the following charters:

Surety company's bond No.	Dates of flight (departure and return)	Places of flight (departure and return)
---------------------------	--	---

This bond is effective the _____ day of _____, 19____, 12:01 a.m., local time at the address of the principal as stated herein and shall continue in force until terminated as hereafter provided. The Principal or the Surety may at any time terminate this bond by written notice to the Civil Aeronautics Board at its office in Washington, D.C., such termination to become effective thirty (30) days after actual receipt of said notice by the Board. The Surety shall not be liable hereunder for the payment of any of the damages hereinbefore described which arise as the result of any contracts, agreements, undertakings, or arrangements for the supplying of transportation and other services made by the Principal to the date such termination becomes effective. Liability of the Surety under this bond shall in all events be limited only to a charter participant or charter participants who shall within sixty (60) days after the termination of the particular charter described herein give written notice of claim to the charter organizer or, if he is unavailable, to the Surety, and all liability on this bond shall automatically terminate sixty (60) days after the termination date of the particular special event charter covered by this bond except for claims filed within the time provided herein.

In witness whereof, the said Principal and Surety have executed this instrument on the _____ day of _____, 19____.

PRINCIPAL

Name _____
By _____

(Signature and Title)

Witness _____

SURETY

Name _____ (SEAL)
By _____

(Signature and Title)

Witness _____

Only corporations may qualify to act as surety and they must meet the requirements set forth in § 369.28(b) of Part 369.

¹ These data may be supplied in an addendum attached to the bond. See § 369.28 (c) *supra*.

APPENDIX B

CAB Form

UNITED STATES OF AMERICA CIVIL
AERONAUTICS BOARDAPPLICATION FOR STATEMENT OF AUTHORIZATION
FOR A SPECIAL EVENT CHARTER

LEAVE THIS SPACE BLANK

(see instructions on Page 3)

To: Civil Aeronautics Board,

Attention: Director, Bureau of Operat-
ing Rights, Washington, D.C. 20428.

Application is made for authorization to con-
duct special event charter flight under pro-
visions of the applicant's certificate or per-
mit and the Board's Special Regulation Part
369.

1. Name of Applicant Air Carrier:
Nationality: _____
2. Send Authorization to:
Name: _____
Address: _____
3. Name of Charter Organizer:
Address: _____
4. Name of Event Sponsor:
Address: _____
5. Dates and Times of Proposed Flight(s):
Departure: _____
Return: _____
6. Routing of Flight(s): _____
7. Comprehensive Description of Event: _____
8. Aircraft Type and Seating Capacity: _____

9. Total Air Charter Price: _____
10. Total Cost of Event-related Charges to
Organizer: _____
11. Organizer's Compensation per passenger: _____

12. Minimum Price per Passenger: _____
13. For Foreign Air Carriers Only:
Does the nation which is the domicile of
the applicant grant to United States car-
riers a charter privilege similar to that
requested herein? _____; if so, has the
fact of such reciprocity been established
with the Civil Aeronautics Board? _____;
if not, documentation to establish such
reciprocity should be attached hereto.

Yes	No	Not applicable
_____	_____	_____

14. Attachments included in
duplicates:
Air charter contract _____
Proposed solicitation mate-
rial _____
Contract between charter
organizer and charter pas-
sengers _____
Surety bond (include an
original copy) _____
Depository agreement _____
15. Filing fee: _____

CERTIFICATION

I hereby certify that the charter flight(s)
for which authority is sought herein con-
forms to the requirements of Special Regu-
lation Part 369, and that the air charter price
conforms to the applicable tariff on file with
the Civil Aeronautics Board.

Date	(Signature and title of authorized carrier official)
_____	_____

INSTRUCTIONS

1. Prepare an original and two copies of
this application (CAB Form _____). If extra
space is needed to complete an item, continue
on a separate sheet of paper.

2. Send the application to: "Civil Aero-
nautics Board, Attention: Director, Bureau

of Operating Rights, Washington, D.C. 20428"
in time to be received at least 30 days in
advance of commencement of the proposed
operation. Applications received less than 30
days prior to the flight departure will be
rejected, unless good cause for lateness is
shown and a waiver of Part 369 is granted.

APPENDIX C

POST-SPECIAL EVENT CHARTER TRIP REPORT

SEC. No. _____

1. No. of charters operated _____
2. No. of charters not operated _____
3. Specifically identify those charters not
operated. _____
4. Reason(s) charter(s) not operated. _____
5. If charter(s) not operated, did prospec-
tive charter participants receive full
refunds? _____
6. Whether charter(s) actually performed
were operated substantially different (e.g.,
dates, points served, charter price, etc.) from
their description in the application for a
Statement of Authorization and, if so, the
reasons therefor. _____
7. Total number of charter participants
carried on the charter(s) _____

Signature of direct air carrier

Signature of charter organizer

PART 389—FEES AND CHARGES FOR
SPECIAL SERVICES

11. Amend § 389.25 by revising para-
graphs (h), (j) and (m) to read as
follows:

§ 389.25 Schedule of filing and license
fees.

(h) Exemptions from section 401,
waivers of Parts 207, 208, 369, 372, 372a,
373 and 378, and special operating au-
thorizations. The filing fee for an appli-
cation (1) for an exemption under sec-
tion 416(b) or section 101(3) of the Act
from the provisions of section 401 of the
Act (except an application dealing with
a specific number of charters) or (2) for
a waiver of Parts 207, 208, 369, 372, 372a,
373 or 378 (except an application dealing
with a specific number of charters), or
(3) for a special operating authorization
under section 417 of the Act, is \$300.

(j) Exemptions or waivers for the per-
formance of a specific number of char-
ters. The filing fee for an exemption un-
der section 416(b) or section 101(3) of
the Act from the provisions of section
401 of the Act, or a request for a waiver
of Parts 207, 208, 369, 372, 372a, 373, or
378, for the performance of a specific
number of charters (one-way or round-
trip) is \$100 plus \$10 for each charter
(one-way or round-trip) described, sub-
ject to a maximum fee of \$300.

(m) Special event charters. The filing
fee for an application for a Statement
of Authorization filed pursuant to
§ 369.41 of this chapter is \$50.

[FR Doc. 74-14399 Filed 6-21-74; 8:45 am]

FEDERAL COMMUNICATIONS
COMMISSION

[47 CFR Part 73]

[Docket No. 20081; RM-2201]

FM BROADCAST STATIONS

Table of Assignments; Proposed
Amendment

In the matter of amendment of
§ 73.202(b), Table of Assignments, FM
Broadcast Stations, (Endicott, New
York).

1. The Commission, by the Chief,
Broadcast Bureau, has before it a peti-
tion for rulemaking filed by January
Enterprises, Inc. (January), seeking
amendment of rule § 73.202(b), the FM
Table of Assignments. Specifically,
January seeks substitution of Class B
Channel 289 for Channel 288A as the
only assignment at Endicott, New York.
January is currently the licensee of
Endicott stations WENE(AM) and
WMRV(FM) which operates on Chan-
nel 288A.

2. January states that Endicott (popu-
lation 16,556) is part of a four commu-
nity cluster in Broome County (popula-
tion 221,815) located along a ten mile
section of N.Y. Route 17, approximately
7 miles north of the New York-Pennsyl-
vania border. The other three communi-
ties are Binghamton (population 64,123),
Johnson City (population 18,025), and
Endwell (population 15,999). These four
communities are considered part of the
same Standard Metropolitan Statistical
Area.

3. At the present time, commercial
aural radio service is furnished to this
area by four unlimited-time AM stations
(WENE-Class III, WKOP-Class III,
WBNF-Class III, and WUNI-Class II)
and three FM stations (WKOP-FM,
WQYT, and WMRV). WMRV(FM) and
WENE(AM) are, as previously noted, as-
signed to Endicott, while the remaining
stations are authorized to Binghamton.

4. January contends that the proposed
change would produce two desirable end
results. First, it would permit WMRV to
upgrade its present facilities to those of
a maximum Class B station with no
short spacing, no preclusionary effects,
and no other changes in the FM Table
of Assignments. This, then, would result
in a more efficient use of the spectrum
permitting WMRV to extend its cover-
age (using the Commission's 1 mV/m
guideline) to include nearly 140,000 per-
sons who are presently unable to receive
it. Second, it would eliminate an inter-
mixture of FM assignments in the same
vicinity and would, therefore, enable
WMRV to compete equally with the two
Binghamton FM stations which operate
on Class B channels. In this respect
January states it competes at a disad-
vantage for the area's revenues because
its "low power signal" not only does not
extend as far into the outlying areas, but
even within the metropolitan area, its
signal may not be received on inexpen-
sive home receivers and car radios. Thus,

it states, WMRV has lost money by not being able to compete with the other FM stations on an equal basis.

5. Petitioner's preclusion study establishes that the proposed substitution of Channel 289 for 288A would have no preclusionary effect on the seven adjacent channels involved. Channel 289 is available for assignment in a restricted area which includes the four communities mentioned previously, i.e., Binghamton, Johnson City, Endwell, and Endicott.

6. From the information available, we believe January has demonstrated the merits and feasibility of substituting Channel 289 for 288A in Endicott and that the public interest, necessity and convenience might be served. Weighing heavily in our decision is (1) the fact that no co-channel or adjacent channel preclusion occurs and (2) such a substitution will permit WMRV to offer its FM service to approximately 140,000 additional persons without any concomitant increase in spectrum occupation.

7. In view of the foregoing, and pursuant to authority found in sections 4(i), 5(d)(1), 303(g) and (r), and 307(b) of the Communications Act of 1934, as amended, and § 0.281(b)(6) of the Commission's rules and regulations, it is proposed to amend § 73.202(b) of the Commission's rules and regulations, the FM Table of Assignments, as follows:

City	Channel No.	
	Present	Proposed
Endicott, N.Y.	288A	289

8. *Showings required.* Comments are invited upon the proposal referred to above. In this connection, January should indicate its continuing interest in the proposal, and it and other interested parties are invited to provide useful data on any relevant aspects of the case.

9. *Cut-off procedures.* The following procedures will govern:

(a) Counterproposals advanced in this proceeding itself will be considered if advanced in initial comments, so that parties may comment on them in reply comments. They will not be considered if advanced in reply comments.

(b) With respect to petitions for rule making which conflict with the proposal in this Notice, they will be considered as comments in this proceeding, and Public Notice to that effect will be given as long as they are filed before the date for initial comments herein. If filed later than that, they will not be considered in connection with the decision herein.

10. January has requested a Show Cause Order be issued to specify the use of Channel 289 by Station WMRV. Because the petitioner is the licensee of the station concerned, however, we view the

Order request as consent to the proposed modification. Therefore, it is unnecessary for the Commission to issue an order to show why its license should not be modified to specify operation on Channel 289 if that channel is substituted for Channel 288A at Endicott, New York.

11. Pursuant to applicable procedures set out in § 1.415 of the Commission's rules and regulations, interested parties may file comments on or before August 8, 1974, and reply comments on or before August 27, 1974. All submissions by parties shall be made in written comments, reply comments, or other appropriate pleadings.

12. In accordance with the provisions of § 1.419 of the Commission's rules and regulations, an original and 14 copies of all comments, reply comments, pleadings, briefs, or other documents shall be furnished the Commission. All filings made in this proceeding will be available for examination by interested parties during regular business hours in the Commission's Public Reference Room at its Headquarters, 1919 M Street, NW, Washington, D.C. 20554.

Adopted: June 12, 1974.

Released: June 14, 1974.

FEDERAL COMMUNICATIONS
COMMISSION,

[SEAL] WALLACE E. JOHNSON,
Chief, Broadcast Bureau.

[FR Doc. 74-14329 Filed 6-21-74; 8:45 am]

notices

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs AREA DIRECTORS, ET AL. Delegation of Authority

JUNE 17, 1974.

This notice is published in exercise of authority delegated by the Secretary of the Interior to the Commissioner of Indian Affairs by 230 DM 2 (32 FR 13938).

This delegation is issued under the authority delegated to the Commissioner by the Secretary in section 25 of Secretary's Order 2508 (10 BIAM 2.1).

Section 3.1 of Part 10 of the Bureau of Indian Affairs Manual (10 BIAM 3.1) was published on page 21284 of the August 7, 1973, FEDERAL REGISTER (38 FR 21284).

It is being amended to reflect a recent organization title change. The title "Director of Southeastern Agencies" was changed to "Area Director, Eastern Area Office." Therefore, the delegation to this position is covered by using the general term "Area Directors" in 10 BIAM 3.1. It is also being amended because 43 CFR 2.6 was redesignated as 43 CFR 2.7 by a document published on page 26594 of the December 14, 1972, FEDERAL REGISTER (37 FR 26594).

As amended, 10 BIAM 3.1 reads as follows:

3.1 *Authorities from the Commissioner.* The authorities of the Secretary of the Interior delegated to the Commissioner in Secretary's Order 2508 (10 BIAM 2.1), 25 CFR, 43 CFR 2.7, and 43 CFR 417.5 are hereby redelegated to the Area Directors and the Project Officer, Joint Use Administrative Office.

This redelegation also includes future authorities of the Secretary of the Interior to the Commissioner which:

A. Do not by their own terms disallow exercise by officials below the Commissioner;

B. Are not within the generally applicable exceptions in section 3.3 below; or

C. Are not expressly excluded, by additional provisions to this chapter, from being exercised by officials below the Commissioner.

MORRIS THOMPSON,
Commissioner of Indian Affairs.

[FR Doc.74-14354 Filed 6-21-74;8:45 am]

Bureau of Land Management

[New Mexico 21670, 21685 and 21686]

NEW MEXICO

Notice of Applications

JUNE 13, 1974.

Notice is hereby given that, pursuant to section 28 of the Mineral Leasing Act

of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for three 4½-inch natural gas pipelines right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 27 N., R. 7 W.,
 Sec. 4, SE¼NE¼, SW¼;
 Sec. 28, W¼NE¼, SE¼NE¼.

These pipelines will convey natural gas across 0.422 miles of national resource land in Rio Arriba County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, 3550 Pan American Freeway, NE, Albuquerque, NM 87107.

FRED E. PADILLA,
*Chief, Branch of Lands
 and Minerals Operations.*

[FR Doc.74-14338 Filed 6-21-74;8:45 am]

[New Mexico 21671]

NEW MEXICO Notice of Application

JUNE 13, 1974.

Notice is hereby given that, pursuant to section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for a 2¾-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 28 N., R. 6 W.,
 Sec. 35, NW¼SW¼.

This pipeline will convey natural gas across .026 miles of national resource land in Rio Arriba County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, 3550 Pan American Freeway, NE, Albuquerque, NM 87107.

FRED E. PADILLA,
*Chief, Branch of Lands
 and Minerals Operations.*

[FR Doc.74-14339 Filed 6-21-74;8:45 am]

[New Mexico 20258]

NEW MEXICO Notice of Application

JUNE 14, 1974.

Notice is hereby given that, pursuant to section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Southern Union Gas Company has applied for 6 and 8 inch natural gas pipelines right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

T. 18 S., R. 27 E.,
 Sec. 3, S¼N¼;
 Sec. 4, Lots 9, 10, 11 and 12;
 Sec. 5, S¼N¼;
 Sec. 6, E¼SE¼;
 Sec. 7, E¼NE¼.

These pipelines will convey natural gas across 3.894 miles of national resource land in Eddy County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

FRED E. PADILLA,
*Chief, Branch of Lands
 and Minerals Operations.*

[FR Doc. 74-14340 Filed 6-21-74;8:45 am]

[New Mexico 20180]

NEW MEXICO Notice of Application

JUNE 13, 1974.

Notice is hereby given that, pursuant to section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), Phillips Petroleum Company has applied for a 4½-inch natural gas and oil pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN,
 NEW MEXICO

T. 18 S., R. 32 E.,
 Sec. 22, NE¼SW¼, N¼SE¼ and SE¼SE¼;
 Sec. 23, S¼SW¼.

This pipeline will convey oil and gas across 1.092 miles of national resource land in Lea County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

FRED E. PADILLA,
Chief, Branch of Lands
and Minerals Operations.

[FR Doc.74-14341 Filed 6-21-74;8:45 am]

[New Mexico 21674]

NEW MEXICO Notice of Application

JUNE 13, 1974.

Notice is hereby given that, pursuant to section 28 of the Mineral Leasing Act of 1920 (30 U.S.C. 185), as amended by the Act of November 16, 1973 (87 Stat. 576), El Paso Natural Gas Company has applied for a 4½-inch natural gas pipeline right-of-way across the following land:

NEW MEXICO PRINCIPAL MERIDIAN,
NEW MEXICO

T. 24 S., R. 27 E.,
Sec. 7, NE¼SW¼.

This pipeline will convey natural gas across .044 mile of national resource land in Eddy County, New Mexico.

The purpose of this notice is to inform the public that the Bureau will be proceeding with consideration of whether the application should be approved, and if so, under what terms and conditions.

Interested persons desiring to express their views should promptly send their name and address to the District Manager, Bureau of Land Management, P.O. Box 1397, Roswell, New Mexico 88201.

FRED E. PADILLA,
Chief, Branch of Lands
and Minerals Operations.

[FR Doc.74-14342 Filed 6-21-74;8:45 am]

[Utah 26199]

UTAH

Closure Order on Discharge of Firearms

JUNE 14, 1974.

Notice is hereby given that the national resource lands (public lands) described below, at the Simpson Springs Campground, Topaz Mountain Rockhound area and Geode Beds Rockhound area are closed to the discharge of firearms to protect the public safety, in accordance with the provisions of 43 CFR, §§ 6010.4 and 6010.5 and 24.3. This closure order does not restrict the carrying of firearms.

SALT LAKE MERIDIAN, UTAH
SIMPSON SPRINGS CAMPGROUND

T. 9 S., R. 8 W.,
Sec. 17, W¼W¼;
Sec. 18, All.

TOPAZ MTN. ROCKHOUND AREA

T. 13 S., R. 11 W.,
Sec. 8, S¼SE¼;
Sec. 9, S¼S¼;
Sec. 10, SE¼;

Sec. 15, E¼;
Sec. 17, E¼;
Sec. 20, E¼NE¼;
Sec. 21, N¼;
Sec. 22, NW¼;

GEODE BEDS ROCKHOUND AREA

T. 11 S., R. 12 W.,
Sec. 1, All;
Sec. 12, N¼.

The areas described aggregate approximately 3,476 acres in Juab and Toole counties.

Simpson Springs Campground is the site of developed Bureau of Land Management camping facility. The area receives heavy concentrated recreation use. Discharge of firearms is a continuing threat to recreationists camped in the area.

Topaz Mountain is the site of a designated Bureau of Land Management rockhound area. The site receives concentrated recreation use. Many people camp at dispersed undeveloped sites in the area. Discharge and target shooting is a direct threat to public safety.

The Geode Beds are a designated Bureau of Land Management rockhound area. The site receives heavy concentrated recreation use. Many people camp in the area. Discharge of firearms constitutes a direct threat to public safety.

The restriction on the use of firearms was one of the management proposals discussed at public meetings held by the Bureau of Land Management. Recent complaints from the visiting public has led to this closure.

All three areas will be signed and patrolled to advertise and enforce this closure. Maps of the closed areas are available at the Salt Lake District Office, 1750 South Redwood Road, Salt Lake City, Utah, and in the BLM State Office, Room 8103, Federal Building, 125 South State Street, Salt Lake City, Utah 84138.

GARY F. GEORGE,
Acting State Director,
Bureau of Land Management.

[FR Doc.74-14353 Filed 6-21-74;8:45 am]

Fish and Wildlife Service

ENDANGERED SPECIES PERMIT Receipt of Application

Notice is hereby given that the following application for a permit is deemed to have been received under section 10 of the Endangered Species Act of 1973 (Pub. L. 93-205).

Applicant: Eloise C. Berchtold, 601 Lane Road, Woodland, Washington 98674.

Mr. C. R. Ravin,
Chief, Division of Law Enforcement
United States Department of the Interior
Fish and Wildlife Service
Bureau of Sport Fisheries and Wildlife
Washington, D.C. 20240

APRIL 23, 1974.

Dear Mr. Ravin: About two weeks ago I telephoned your department concerning my obtaining a permit to transport my trained wild animals which include two tigers and a leopard. Currently, and for the past twenty-two years, I am traveling with a circus train-

ing and performing with wild animals including tigers, lions, leopards, bears, and elephants. During this time I did spend four years at the Toledo Zoo, Toledo, Ohio presenting my own show and hope to again settle down in one of the many beautiful animal drive through parks sometime in the future with my animals. As is the case now however, I understand that I fall under the new regulations concerning transporting endangered species across state lines and Mr. Crabb mailed to me a form letter, FSF/LE-ENF 7-02 April 10, 1974, plus the Friday, January 4, 1974 FEDERAL REGISTER of the Department of the Interior, Volume 39, Number 3, Part 111 and a copy of the Public Law 93-205, 93rd Congress, S. 1983, December 28, 1973. I have studied these and am applying for my permit in accordance with these regulations.

Section 13.12(a)

1. Eloise C. Berchtold, 601 Lane Rd., Woodland, Washington 98674, the telephone number 206-225-6335.

2. Individual, born December 30, 1935, height 5'9", weight 147 lbs., color of hair blond, color of eyes grey, sex female. Independent contractor self-employed.

3. Individual.

4. Travel throughout the United States and Canada with permanent base in Woodland, Washington.

5. Endangered Wildlife permit—Zoological, educational, scientific, or propagation—17.23. Section 17.23(a)

1. Bengal tigers—panthera tigris—two, 12½ yrs. old, females Indian spotted leopard—panthera pardus—one, 3 yrs. old, female.

2. The tigers have been in my possession since their birth at the Toledo Zoo, Toledo, Ohio and I have owned the leopard since September, 1972—she was born in the Salt Lake City Zoo. I do not want to import animals from their native habitat.

3. I believe that wild animal training is an art of its own when properly and humanely practiced and serves to demonstrate to the public the high degree of intelligence of these animals and thereby earns respect and admiration for these wonderful animals called "dumb" by many and perhaps the majority of people. I do not feel it warrants importing them but do feel it is justified when surplus captive born animals are used and gives these otherwise bored and cage bound animals something to do and take pride in as when properly trained they show great pride in their work. I hope to eventually settle in one of the large animal parks and attain a higher degree of training with the animals. If I am permitted to buy and transport a male tiger I would like to breed my tigers and raise more.

4. My present business involves a joint venture with H. Morgan Berry from who I am buying nine elephants. I rent his 80 acre farm on which there is a large barn for housing and training the animals. As I am registered with the United States Department of Agriculture as an exhibitor of wild animals this premises has been inspected and approved by them. The address of this farm is 601 Lane Rd., Woodland, Washington 98674.

5. The tigers and leopard were born in captivity in zoos.

6. I have no wish to import wild animals.

7. No imports.

Section 13.12 continued:

6. No imports.

7. I hereby certify that I have read and am familiar with the regulations contained in Title 50, Part 13, of the Code of Federal Regulations and the other applicable parts in Subchapter B of Chapter I of Title 50, and I further certify that the information submitted in this application for a permit is complete and accurate to the best of my knowledge and belief. I understand that any false statement

hereon may subject me to the criminal penalties of 18 U.S.C. 1001.

8. The desired effective date of the permit would be as soon as the permit is granted with the possibility of renewing it before its expiration.

9. April 23, 1974.

10. Eloise Berchtold.

11. In addition to the above animals for which I am applying for the permit I also have nine elephants, nine bears, three African lions, one aoudad, one baboon and various domestic animals. I graduated from high school at 15 and have earned my living training wild animals ever since then. I enclose a few pictures to show the excellent condition of these animals and hope that your department shall see fit to help maintain the fine tradition of the American circuses which provide some of the finest wholesome family entertainment in this country.

Documents and other information submitted in connection with this application are available for public inspection during normal business hours at the Bureau's office in Suite 600, 1612 K Street NW., Washington, D.C.

Interested persons may comment on this application by submitting written data, views, or arguments, preferably in triplicate, to the Director (FSF/LE), Bureau of Sport Fisheries and Wildlife, Washington, D.C. 20240. All relevant comments received no later than July 23, 1974, will be considered.

Dated: June 18, 1974.

KEITH M. SCHREINER,
Acting Director, Bureau of
Sport Fisheries and Wildlife.

[FR Doc.74-14312 Filed 6-21-74;8:45 am]

Geological Survey

BURNS CREEK-THIRTEEN MILE CREEK, MONTANA

Known Leasing Area (Coal)

Pursuant to authority contained in the Act of March 3, 1879 (43 U.S.C. 31), as supplemented by Reorganization Plan No. 3 of 1950 (43 U.S.C. 1451, note), and 203 Departmental Manual 1, and Secretary's Order No. 2948, Federal lands within the State of Montana have been classified as subject to the competitive coal leasing provisions of the Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 201). The name of the area, effective date, and total acreage involved are as follows:

(26) MONTANA

Burns Creek-Thirteen Mile Creek (Montana) Known Leasing Area (Coal); January 29, 1974, 197,355 acres.

A diagram showing the boundaries of the area classified for competitive leasing has been filed with the appropriate land office of the Bureau of Land Management. Copies of the diagram and the land description may be obtained from the Regional Conservation Manager, U.S. Geological Survey, Building 25, Denver Federal Center, Denver, Colorado 80225.

Dated: June 14, 1974.

W. A. RADLINSKI,
Acting Director.

[FR Doc.74-14392 Filed 6-21-74;8:45 am]

Office of the Secretary

[INT DES 74-69]

CABEZA PRIETA, ARIZONA; PROPOSED WILDERNESS AREA

Availability of Draft Environmental Statement

Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969, Pub. L. 91-190, the Department of the Interior has prepared a draft environmental statement for the Proposed Cabeza Prieta Wilderness Area, Arizona, and invites written comments within 45 days of this notice.

The proposal recommends that approximately 833,500 acres of the Cabeza Prieta Game Range and adjacent lands in Yuma and Pima Counties, Arizona, be designated as wilderness within the National Wilderness Preservation System.

Copies of the draft statement are available for inspection at the following locations:

Bureau of Sport Fisheries and Wildlife
Box 1306
Albuquerque, New Mexico 87103
Pima Association of Governments
Pima County Governmental Center
Administration Building
Tucson, Arizona 85703
Headquarters
Box AP
Blythe, California 92225
Bureau of Sport Fisheries and Wildlife
Office of Environmental Coordination
Department of the Interior
18th and "C" Streets, NW., Room 2246
Washington, D.C. 20240

Single copies may be obtained by writing the Chief, Office of Environmental Coordination, Bureau of Sport Fisheries and Wildlife, Department of the Interior, Washington, D.C. 20240. Comments concerning the proposed action should also be addressed to the Chief, Office of Environmental Coordination. Please refer to the statement number above.

Dated: June 17, 1974.

STANLEY D. DOREMUS,
Deputy Assistant Secretary
of the Interior.

[FR Doc.74-14346 Filed 6-21-74;8:45 am]

National Park Service

GULF ISLANDS NATIONAL SEASHORE ADVISORY COMMISSION

Notice of Meeting

Notice is hereby given in accordance with the Federal Advisory Committee Act that a meeting of the Gulf Islands National Seashore Advisory Commission will be held at 10 a.m., e.s.t., on July 9, 1974, at the Rodeway Inn, 1500 Government Street, Mobile, Alabama.

The purpose of the Gulf Islands National Seashore Advisory Commission meeting is to discuss land status and development for Gulf Islands National Seashore and to facilitate the solicitation of advice or other counsel from members of the public on problems and programs pertinent to the Gulf Islands National Seashore.

Members of the Advisory Commission are as follows:

Mr. J. Earle Bowden (Chairman)
Gulfport, Mississippi
Mr. Gordon D. Allen
Gulfport, Mississippi
Lt. Col. Lloyd J. Callevet
Biloxi, Mississippi
Mr. John R. Cox
Destin, Florida
Mr. Robert D. Cramer
Pensacola, Florida
Mr. Donald E. Danly
Pensacola, Florida
Mr. Paul Frank
Gulfport, Mississippi
Mr. E. B. Jones
Pensacola, Florida
Mr. J. K. Lemon
Ocean Springs, Mississippi
Honorable H. Bryant Liggett
Pensacola, Florida
Mr. Nicholas A. Mavar, Jr.
Biloxi, Mississippi
Mr. Charles E. Moes
Gulf Breeze, Florida
Mr. Duncan Moran
Ocean Springs, Mississippi
Mr. Dee Parkton
Crestview, Florida
Mr. Davage Rannels, Jr.
Destin, Florida
Lt. Col. Mercer Richard Smith (Ret)
Gulf Breeze, Florida
Mr. James Stevens
Gulfport, Mississippi
Mr. G. Earl Wallis
Milton, Florida
Mr. E. P. Wilkes
Biloxi, Mississippi
Dr. J. Kinabrew Williams, Jr.
Pascagoula, Mississippi
Mrs. Erica Woolley
Pensacola, Florida

The meeting will be open to the public. However, facilities and space for accommodating members of the public are limited, and persons will be accommodated on a first-come first-served basis. Any member of the public may file with the Commission a written statement concerning the matters to be discussed.

Persons wishing further information concerning this meeting or who wish to submit written statements, may contact Paul C. Swartz, Chief, Cooperative Activities Division, Southeast Region, National Park Service, at Area Code 404, 526-7560. Minutes of the meeting will be available for public inspection four weeks after the meeting at the office of the Southeast Region, 3401 Whipple Ave., Atlanta, Georgia.

Dated: June 12, 1974.

DAVID D. THOMPSON, JR.,
Regional Director,
Southeast Region.

[FR Doc.74-14314 Filed 6-21-74;8:45 am]

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

[Marketing Agreement 146]

PEANUT ADMINISTRATIVE COMMITTEE

Budget of Expenses and Rate of Assessment for 1974 Crop Year

Pursuant to Marketing Agreement 146, regulating the quality of domestically produced peanuts (30 FR 9402), and

upon recommendation of the Peanut Administrative Committee established pursuant to such agreement and other information, it is hereby found and determined that the expenses of said Committee and the rate of assessment applicable to peanuts produced in 1974 and for the crop year beginning July 1, 1974, shall be as follows:

(a) *Administrative expenses.* The budget of expenses for the Committee for the crop year beginning July 1, 1974, shall be in the total amount of \$330,000, such amount being reasonable and likely to be incurred for the maintenance and functioning of the Committee, and for such purposes as the Secretary may, pursuant to the provisions of the marketing agreement, determine to be appropriate.

(b) *Indemnification expenses.* Expenses of the Committee for indemnification payments, pursuant to the Terms and Conditions of Indemnification Applicable to 1974 Crop Peanuts, effective July 1, 1974, are estimated at, but may exceed \$3.5 million, such amount being reasonable and likely to be incurred.

(c) *Rate of assessment.* Each handler shall pay to the Peanut Administrative Committee, in accordance with section 48 of the marketing agreement, an assessment of the rate of \$1.55 per net ton of farmers stock peanuts received or acquired other than those described in section 31 (c) and (d) (\$0.30 for administrative expenses and \$1.25 for indemnification expenses).

(d) *Indemnification reserve.* Monetary additions to the indemnification reserve, established in the 1965 crop year pursuant to section 48 of the marketing agreement, shall continue. That portion of the total assessment funds accrued from the \$1.25 rate and not expended in providing indemnification on 1974 crop peanuts shall be placed in such reserve and shall be available to pay indemnification expenses on subsequent crops.

The expenses and rate of assessment are, under the agreement, on a crop year basis and will automatically be applicable to all assessable peanuts from the beginning of such crop year. The handlers of peanuts who will be affected hereby have signed the marketing agreement authorizing approval of expenses that may be incurred and the imposition of assessments, they are represented on the Committee which has submitted the recommendation with respect to such expenses and assessment for approval; and handlers have had knowledge of the foregoing in their recent industry-wide discussions and will be afforded maximum time to plan their operations accordingly.

Dated: June 19, 1974.

CHARLES R. BRADER,
Deputy Director,
Fruit and Vegetable Division.

[FR Doc.74-14335 Filed 6-21-74; 8:45 am]

Forest Service

CALIFORNIA ADVISORY COMMITTEE TO THE U.S. FOREST SERVICE

Notice of Meeting

The California Advisory Committee to the U.S. Forest Service will hold a field

meeting on July 18 and 19, on the Tahoe National Forest.

Discussions will consider current status of land use planning on the Tahoe National Forest and other related issues.

Public participation is invited, and written statements are welcome, before or after the meeting, by contacting the Regional Forester, U.S. Forest Service, 630 Sansome Street, San Francisco, California 94111—Telephone (415) 556-4310. Oral statements can be made by making arrangements with the chairman in advance.

DOUGLAS R. LEISZ,
Regional Forester.

JUNE 14, 1974.

[FR Doc.74-14351 Filed 6-21-74; 8:45 am]

Soil Conservation Service

RABON CREEK WATERSHED PROJECT, SOUTH CAROLINA

Availability of Draft Environmental Statement

Pursuant to section 102(2)(C) of the National Environmental Policy Act of 1969, the Soil Conservation Service, U.S. Department of Agriculture, has prepared a draft environmental statement for the Rabon Creek Watershed Project, Laurens and Greenville Counties, South Carolina, USDA-SCS-ES-WS-(ADM)-74-28(D).

The environmental statement concerns a plan for watershed protection, flood prevention, municipal and industrial water supply, and recreation. The planned works of improvement include conservation land treatment, two flood-water retarding structures, one multiple purpose structure for flood prevention, recreation, and water supply storage, and a recreational development. A total of 1,555 acres of land will be used for pool areas, dams, and borrow areas in project installation. Land inundated by the project will total 693 acres with 10.2 miles of flowing streams inundated. The recreational development will require an additional 361 acres and will provide 49,000 visitor-days of recreation annually.

A limited supply of copies is available at the following location to fill single copy requests:

Soil Conservation Service, USDA, 901 Sumter Street, Columbia, South Carolina 29201.

Copies of the draft environmental statement have been sent for comment to various federal, state, and local agencies as outlined in the Council on Environmental Quality Guidelines. Comments are also invited from others having knowledge of or special expertise on environmental impacts.

Comments concerning the proposed action or requests for additional information should be addressed to George E. Huey, State Conservationist, Soil Conservation Service, 901 Sumter Street, Columbia, South Carolina 29201.

Comments must be received on or before August 20, 1974, in order to be considered in the preparation of the final environmental statement.

(Catalog of Federal Domestic Assistance Program No. 10.904, National Archives Reference Services.)

Dated: June 14, 1974.

WILLIAM B. DAVEY,
Deputy Administrator for Water
Resources, Soil Conservation Service.
[FR Doc.74-14350 Filed 6-21-74; 8:45 am]

DEPARTMENT OF COMMERCE

Domestic and International Business Administration

BOSTON UNIVERSITY, SCHOOL OF MEDICINE

Decision on Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty-free entry of a scientific article pursuant to section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (37 FR 3892 et seq.).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Docket Number: 74-00332-33-46040. Applicant: Boston University School of Medicine, 80 East Concord Street, Boston, Massachusetts 02118. Article: Electron Microscope, Model Corinth 275. Manufacturer: AEI Scientific Apparatus, United Kingdom. Intended use of article: The article is intended to be used to examine ultrathin section of materials from the brain and inner ear. It will serve as the electron microscope used to study the process of aging in the nervous system and will be employed in three subprojects: (1) Age-related changes in the auditory cortex, (2) aging in the olfactory-bulb, and (3) aging in the microcirculation of the auditory system.

Comments: No comments have been received with respect to this application.

Decision: Application approved. No instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, was being manufactured in the United States at the time the article was ordered (August 7, 1972).

Reasons: The foreign article provides a viewing image which is open and available for measurement or tracing by direct methods. The most closely comparable domestic instrument available at the time the article was ordered was the Model EMU-4C electron microscope supplied by the Adam David Company. The Model EMU-4C does not provide a viewing image which is open and available for measurement or tracing by direct methods. The Department of Health, Education, and Welfare (HEW) advised in its memorandum dated May 23, 1974 that the capability to provide a viewing image which is open and available for measurement or tracing by direct methods is pertinent to the applicant's study of the auditory cortex and olfactory bulb changes as a function of age. HEW also advised that domestic

instruments do not provide the capability found pertinent.

We find, therefore, that the Model EMU-4C was not of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used at the time the article was ordered.

The Department of Commerce knows of no other instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, which was being manufactured in the United States at the time the article was ordered.

(Catalog of Federal Domestic Assistance Program No. 11.105, Importation of Duty-Free Educational and Scientific Materials.)

A. H. STUART,
Director,
Special Import Programs Division.

[FR Doc. 74-14333 Filed 6-21-74; 8:45 am]

VANDERBILT UNIVERSITY

Decision on Application for Duty-Free Entry of Scientific Article

The following is a decision on an application for duty-free entry of a scientific article pursuant to section 6(c) of the Educational, Scientific, and Cultural Materials Importation Act of 1966 (Pub. L. 89-651, 80 Stat. 897) and the regulations issued thereunder as amended (37 FR 3892 et seq.).

A copy of the record pertaining to this decision is available for public review during ordinary business hours of the Department of Commerce, at the Office of Import Programs, Department of Commerce, Washington, D.C. 20230.

Docket Number: 74-00346-33-30950.
Applicant: Vanderbilt University, Purchasing Department, 201 26th Avenue South, Nashville, Tenn. 37235. Article: High Vacuum Freeze Etch Unit BAF 300. Manufacturer: Balzers, AG, Switzerland. Intended use of article: The article is intended to be used for studies of DNA, particularly in the condensed state where the molecules, or parts of molecules, are closely packed in a way that is thought to resemble the structure of chromosomes or to provide evidence on the physical relations relating to the structure of chromosomes. The article will also be used to individually instruct students in the use of the equipment in the following courses: Molecular Biology 298, Molecular Biology 390, Molecular Biology 369 and Molecular Biology Ph. D. Dissertation Research.

Comments: No comments have been received with respect to this application.

Decision: Application approved. No instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, is being manufactured in the United States.

Reasons: The foreign article has the capability to fracture a sample in vacuum and immediately electron beam coat the surface with tantalum or tungsten. The article also has the capability to monitor the deposition rate in order to achieve the correct deposited thickness on a

sample. The Department of Health, Education, and Welfare (HEW) advised in its memorandum dated May 24, 1974 that the capabilities described above are pertinent to the applicant's study of the extended and condensed state of DNA and the structure of chromosomes. HEW also advised that it knows of no domestic instruments, or combinations thereof, of equivalent scientific value to the foreign article for such purposes as this article is intended to be used.

The Department of Commerce knows of no other instrument or apparatus of equivalent scientific value to the foreign article, for such purposes as this article is intended to be used, which is being manufactured in the United States.

(Catalog of Federal Domestic Assistance Program No. 11.105, Importation of Duty-Free Educational and Scientific Materials.)

A. H. STUART,
Director,
Special Import Programs Division.

[FR Doc. 74-14332 Filed 6-21-74; 8:45 am]

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Atlantic Bluefin Tuna Study and Certain Other Actions

As a result of concern for the overall welfare of Atlantic bluefin tuna stocks arising from preliminary investigations by its scientists as well as statements of concern received from citizens and organizations, the National Marine Fisheries Service of the National Oceanic and Atmospheric Administration is initiating certain actions with respect to these stocks. Consequently, pursuant to certain legislative authorities (Fish and Wildlife Act of 1956, as amended, 17 U.S.C. 742a-742d, and 742e-742k, the Marine Migratory Sport Fish Act, 16 U.S.C. 760c-760g) the National Marine Fisheries Service in cooperation with Canada, certain states and commercial and recreational fishing groups, has commenced a comprehensive scientific study of the Atlantic bluefin tuna stocks (*Thunnus thynnus thynnus*) found adjacent to the Atlantic coast of the United States, in order to determine (a) the status of the stocks, (b) the effects of fishing thereon, and (c) a suitable management program. In connection with this study the National Marine Fisheries Service has taken the following action:

1. Met with appropriate officials of the Government of Canada for the purpose of developing an international research program and discussing conservation measures for 1974, including a voluntary management program and specific action with respect to the breeding stocks of "glant" bluefin tunas;

2. Conferred with appropriate officials of involved coastal states and with representatives of organizations concerned with conservation of the Atlantic bluefin tuna regarding the voluntary management program which is described herein; and

3. Prepared voluntary guidelines for those persons subject to the jurisdiction of the United States while fishing for Atlantic bluefin tuna relating to, among other things, conservation measures required to maintain the bluefin tuna stocks and permit an equitable division of harvest between the United States recreational and commercial fishermen, with a view to preserving recreational opportunities for marine anglers and maintaining a viable commercial industry.

As a result, in part, of the foregoing actions:

(A) The Canadian Government indicated an intention to impose restrictions on commercial and recreational fishermen subject to its jurisdiction for the 1974 bluefin tuna season which would include, among other things, a limitation on the number of fish to be taken in the Gulf of St. Lawrence and in certain other areas on the Canadian Atlantic coast.

(B) The National Marine Fisheries Service is hereby requesting that certain commercial and recreational fishing groups and individuals subject to the jurisdiction of the United States, adhere to the following proposed guidelines in regard to the 1974 bluefin tuna season in the Western Atlantic:

(i) In the waters off the United States from Cape Cod north:

(a) Commercial seiners be restricted to a total catch of 225 tons of bluefin tuna;

(b) All other fishing vessels using other types of gear and selling their catch be restricted to 250 tons of bluefin tuna; and

(c) Recreational fishermen, i.e., those not selling their catch, be restricted to tagging and releasing their catches.

(ii) In the waters off the mid-Atlantic coastal States of the United States south of Cape Cod:

(a) Commercial seiners be restricted to a total catch of 1,200 tons of bluefin tuna;

(b) Recreational fishermen be limited to a catch of one fish per day per angler; and

(c) Bluefin tuna taken by both commercial and recreational fishermen in this geographical area should not exceed 115 lbs. in weight, or be less than 14 lbs. in weight.

Based upon the data compiled under (D) below and his estimate of additional quantities of bluefin tuna expected to be caught, the Director shall announce in the FEDERAL REGISTER the date(s) that the quotas referred to in (i) (a), (i) (b), and (ii) (a) will be reached.

(C) The National Marine Fisheries Service has requested or will request certain coastal States, to the extent of their available legislative authorities, to regulate the bluefin tuna fishery within their jurisdiction in accordance with the guidelines set forth in (B) (i) and (B) (ii).

(D) The National Marine Fisheries Service is arranging, with the cooperation of the commercial fishing industry, for scientific observers to be placed on

board all United States seiners to gather data on the age, growth, fecundity and other biological factors with respect to bluefin tuna taken during their fishing operations in the geographical areas referred to in (B) (i) and (B) (ii) above. Data will also be compiled with respect to the landings of bluefin tuna at certain ports.

The proposed guidelines and studies are designed to provide the scientific information necessary to determine accurately the status of bluefin tuna stocks and will form a basis for the development of an improved management program for the bluefin stocks in future years. The present voluntary restrictions on catch are intended to prevent a deterioration of the bluefin tuna stocks while the situation is under study.

Any person desiring to submit factual material relevant to the study of the status of bluefin tuna stocks or desiring to comment on the proposed guidelines may do so by writing to the Regional Director, National Marine Fisheries Service, Gloucester, Massachusetts 01930 on or before July 9, 1974.

Done at Washington, D.C., this 19th day of June, 1974.

ROBERT W. SCHONING,
Director, National Marine
Fisheries Service.

[FR Doc.74-14390 Filed 6-21-74;8:45 am]

Office of the Secretary
CTAB PANEL ON PROJECT
INDEPENDENCE BLUEPRINT
Notice of Establishment

In accordance with the provisions of the Federal Advisory Committee Act (5 U.S.C. App. I Supp II, 1972) and Office of Management and Budget Circular A-63 of March 1974, and after consultation with OMB, the Secretary of Commerce has determined that the establishment of the Commerce Technical Advisory Board (CTAB) Panel on Project Independence Blueprint is in the public interest in connection with the performance of duties imposed on the Department by law.

The Panel, established at the request of the Office of Coal Research of the Department of the Interior, will provide the Secretary with an independent assessment of the feasibility of the proposed actions and policies derived from the Project Independence Blueprint analyses. It will represent a central input of private sector views on governmental policies designed to expand the domestic supply of energy sources in the United States. Special emphasis will be placed on the feasibility of expansion of the synthetic fuel industries and the effect of such expansion on the nation.

The Panel will consist of approximately 20 members, expert in the field of energy supply and industrial consumption. It will report and be responsible to the Assistant Secretary for Science and Technology. The Panel will function solely as an advisory body, and in compliance with the provisions of the Federal Advisory Committee Act and

the Office of Management and Budget Circular A-63.

Because of the short time available to review the Project Independence material and the complexity of the tasks to be performed by the Panel, the Office of Management and Budget has authorized filing of the Charter for the Panel seven days after publication of this notice (July 1, 1974).

Dated: June 20, 1974.

HENRY B. TURNER,
Assistant Secretary
for Administration.

[FR Doc.74-14552 Filed 6-21-74;11:04 am]

CTAB PANEL ON PROJECT
INDEPENDENCE BLUEPRINT
Notice of Meetings

The first meeting of the Department of Commerce Technical Advisory Board (CTAB) Panel on Project Independence Blueprint will be held on Wednesday, July 10, 1974 from 9:30 a.m. to 5:00 p.m. in Room 4833, Commerce Building, 14th and Constitution Avenue NW., Washington, D.C.

The Panel was established to provide an independent assessment of the feasibility of the actions and policies resulting from the Project Independence studies. The Panel will represent a central input of private sector views concerning governmental policy decisions designed to expand the domestic supply of energy sources. Special emphasis will be placed on the feasibility of expansion of the synthetic fuel industries and the effect of such expansion on the nation.

Tentative agenda items include:

1. General discussion on future direction and activities of the Panel
2. General discussion of background data and information on domestic energy supply
3. General discussion of Project Independence Blueprint objectives and data.

Subsequent meetings will be held at the same place and time on July 16, 17, 18, 23, 24, 25, 30 and 31 and on August 1.

A limited number of seats will be available to the press and to the public. The public will be permitted to file written statements or inquiries with the Chairman before or after each meeting.

Persons desiring further information on the Panel or on individual meetings should contact Mr. Frank Castellon, Room 3877, U.S. Department of Commerce, 14th and Constitution Avenue, NW., Washington, D.C.; telephone (202) 967-3668.

Dated: June 20, 1974.

HENRY B. TURNER,
Assistant Secretary
for Administration.

[FR Doc.74-14553 Filed 6-21-74;11:04 am]

DEPARTMENT OF HEALTH,
EDUCATION, AND WELFARE

Office of the Secretary

ASSISTANT SECRETARY FOR HEALTH,
ET AL.

Delegations of Authority

Notice is hereby given that the following delegation and redelegations of au-

thority have been made under the Emergency Medical Services Systems Act of 1973 (Public Law 93-154).

1. Delegation from the Secretary to the Assistant Secretary for Health to perform, pursuant to Section 1208, all of the authorities vested in the Secretary of Health, Education, and Welfare by the Emergency Medical Services Systems Act of 1973 (Public Law 93-154), except for Section 1209, relating to the establishment of the Interagency Committee on Emergency Medical Services.

These authorities may be redelegated.

2. Redelegation from the Assistant Secretary for Health to the officials noted below to exercise the following authorities under the Emergency Medical Services Systems Act (Public Law 93-154) which were delegated to the Assistant Secretary for Health by the Secretary. The citations below refer to sections of the Public Health Service Act as amended by Public Law 93-154:

a. To the Regional Health Administrators:

(1) Authority under section 776 for grants and contracts to eligible entities to assist in meeting the cost of training programs in emergency medical services systems.

(2) Authority under section 1202 for grants to and contracts with eligible entities for feasibility studies and planning of emergency medical services systems.

(3) Authority under section 1203 for grants to and contracts with eligible entities for establishing an initial operation of emergency medical services systems.

(4) Authority under section 1204 for grants to and contracts with eligible entities for expansion and improvement of emergency medical services systems.

(5) Authority under section 1206, general provisions, for grants and contracts for emergency medical services systems, as related to redelegations 2a(1) through 2a(4) above.

These authorities may not be redelegated.

b. To the Administrator, Health Resources Administration:

(1) Authority for the administration of training programs under section 776 including grants and contracts with eligible entities for projects of National significance to assist in meeting the cost of training in emergency medical services systems.

(2) Authority under section 1205 for grants to and contracts with eligible entities for the support of research in emergency medical techniques, methods, devices, and delivery.

These authorities may be redelegated.

c. To the Administrator, Health Services Administration, authorities under section 1208 regarding the administration of the emergency medical services systems programs.

These authorities may not be redelegated.

Dated: June 17, 1974.

JOHN OTTINA,
Assistant Secretary for
Administration and Management.

[FR Doc.74-14389 Filed 6-21-74;8:45 am]

FOOD AND DRUG ADMINISTRATION

Statement of Organization, Functions, and Delegations of Authority; Correction

The following list of Food and Drug Administration Offices (Exhibit X6-1) was inadvertently omitted as an attach-

EXHIBIT X6-1.—Food and Drug Administration—permanent offices

State	City	Type of office	Address	ZIP code
Arkansas	Jefferson	National Center for Toxicological Research		72079
California	Los Angeles	District Office	1521 West Pico Blvd.	90015
	San Francisco	Field/District Office	Room 518, 50 Fulton St.	94102
Colorado	Denver	do.	Room 518, 20th and California Sts.	80202
Georgia	Atlanta	do.	60 8th Street NE	30309
Illinois	Chicago	do.	Room 1222, 433 West Van Buren St.	60607
Louisiana	New Orleans	District Office	Room 222, 423 Canal St.	70130
Maryland	Baltimore	do.	900 Madison Ave.	21201
	Rockville	Headquarters	5600 Fishers Lane	20852
Massachusetts	Boston	Field/District Office	585 Commercial St.	02109
	Winchester	Winchester Engineering and Analytical Center	109 Holton St.	01890
Michigan	Detroit	District Office	1560 East Jefferson Ave.	48207
Minnesota	Minneapolis	District Office and Minneapolis Center for Microbiological Investigations	240 Hennepin Ave.	55401
			do.	55401
Missouri	Kansas City	Field/District Office	1009 Cherry St.	64106
	St. Louis	National Center for Drug Analysis	1114 Market St.	63101
New Jersey	Newark	District Office	Room 831, 970 Broad St.	07102
New York	Brooklyn	Field/District Office	850 Third Ave.	11232
	Buffalo	District Office	599 Delaware Ave.	14202
Ohio	Cincinnati	District Office and Cincinnati Research Laboratories	1141 Central Parkway	45202
			1090 Tusculum Ave.	45226
Pennsylvania	Philadelphia	Field/District Office	Room 1204, 2d and Chestnut Sts.	19106
Puerto Rico	San Juan	District Office	P.O. Box 4427, Old San Juan Station	00905
Texas	Dallas	Field/District Office	3032 Bryan St.	75204
Washington	Seattle	do.	Room 5003, 901 1st Ave.	98104

[FR Doc.74-14388 Filed 6-21-74; 8:45 am]

Social Security Administration

NURSE ANESTHETIST COMMITTEE AND HOME HEALTH CARE COMMITTEE OF THE HEALTH INSURANCE BENEFITS ADVISORY COUNCIL

Notice of Public Meetings

Notice is hereby given, pursuant to Public Law 92-463, of the meeting of two Committees of the Health Insurance Benefits Advisory Council (HIBAC), which was established pursuant to section 1867 of the Social Security Act, as amended, to advise the Secretary of Health, Education, and Welfare on Medicare and Medicaid matters.

The Nurse Anesthetist Committee of HIBAC, which is studying the potential role of nurse anesthetists as recognized providers of services under Medicare, will meet on Thursday, July 11, 1974, at 9:30 a.m. in Room 4137 of the Department of Health, Education, and Welfare's North Building, Third and C Streets, SW., Washington, D.C.

The Home Health Care Committee of HIBAC, which is studying the possibility of broadening the coverage of home health services under Medicare, will meet on Friday, July 12, 1974, at 9:30 a.m., also in Room 4137 of the North Building.

Both of these meetings are open to the public.

Further information on the Committees may be obtained from Mr. Max Perlman, Executive Secretary, Health Insurance Benefits Advisory Council,

ment to the Organization Statement headed as above, when it was published on May 29, 1974 at 39 FR 18696.

Dated: June 17, 1974.

THOMAS S. MCFEE,
Deputy Assistant Secretary for
Management Planning and
Technology.

catastrophe declared a major disaster by the President in his declaration of June 10, 1974:

The counties of:

Cass
De Kalb
Fulton

Mason
Ogle
Schuyler

Dated: June 18, 1974.

(Catalog of Federal Domestic Assistance No. 14.701, Disaster Assistance.)

THOMAS P. DUNNE,
Administrator, Federal Disaster
Assistance Administration.

[FR Doc.74-14400 Filed 6-21-74; 8:45 am]

ATOMIC ENERGY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS; SUBCOMMITTEE ON REGULATORY GUIDES

Meeting

JUNE 19, 1974.

In accordance with the purposes of sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232b.), the Advisory Committee on Reactor Safeguards' Subcommittee on Regulatory Guides will hold a meeting at 6 p.m. on July 10, 1974 in Room 1046 at 1717 H Street, NW., Washington, D.C. This meeting will be closed to the public.

The Subcommittee will meet in closed session with the AEC Regulatory Staff to discuss a working paper on quality assurance requirements for the installation, inspection, and testing of structural concrete and structural steel during the construction phase of a nuclear power plant. In connection with this matter, the Subcommittee may hold Executive sessions, not open to the public, prior to and at the conclusion of the meeting with the AEC Regulatory Staff, to exchange opinions and formulate recommendations to the ACRS.

I have determined, in accordance with subsection 10(d) of Public Law 92-463, that the closed session will consist of a discussion of a Regulatory Staff working paper which falls within exemption (5) of 5 U.S.C. 552(b); and the Executive sessions will consist of exchanges of opinions and formulation of recommendations, the discussion of which, if written, would fall within exemption (5) of 5 U.S.C. 552(b). Any non-exempt material that may be presented during this meeting will be inextricably intertwined with such exempt material and no separation of exempt and non-exempt material is considered practical. It is essential to close this meeting to protect the free interchange of internal views and to avoid undue interference with Subcommittee and agency operation.

JOHN C. RYAN,
Advisory Committee
Management Officer.

[FR Doc.74-14385 Filed 6-21-74; 8:45 am]

Room 585, East Building, Social Security Administration, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone 301-594-9134. Members of the public planning to attend either of these meetings are asked to notify the Executive Secretary to ensure adequate seating.

(Catalog of Federal Domestic Assistance Program Numbers: 13.800, Health Insurance for the Aged-Hospital Insurance; 13.801, Health Insurance for the Aged-Supplementary Medical Insurance; 13.714, Medical Assistance Program.)

Dated: June 19, 1974.

MAX PERLMAN,
Executive Secretary, Health Insurance Benefits Advisory Council.

[FR Doc.74-14432 Filed 6-21-74; 8:45 am]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Federal Disaster Assistance Administration ILLINOIS

[FDAA-438-DR; Docket No. NFD-211]

Amendment to Notice of Major Disaster

Notice of Major Disaster for the State of Illinois, dated June 10, 1974, and amended June 13, 1974, is hereby further amended to include the following counties among those counties determined to have been adversely affected by the

[Construction Permit Nos. 81 and 82]

CONSUMERS POWER CO.

Notice and Order for Commencement of Evidentiary Hearing

In the matter of Consumers Power Company (Midland Plant, Units 1 and 2).

Please take notice that evidentiary hearing in the above-captioned show cause proceeding will commence at 9:30 a.m. on Tuesday, July 16, 1974, in the Main Banquet Room, Holiday Inn, 1500 West Wackerly Road, Midland, Michigan.

At the commencement of the hearing, interested persons will be afforded an opportunity to make a limited appearance pursuant to 10 CFR 2.715 (§ 2.715 of the Commission's rules of practice). Persons desiring to make a limited appearance will be given ten (10) minutes to do so.

It is so ordered.

ATOMIC SAFETY AND LICENSING BOARD,
MICHAEL L. GLASER,
Chairman.

[FR Doc.74-14380 Filed 6-21-74; 8:45 am]

HIGH ENERGY PHYSICS ADVISORY PANEL

Meeting

JUNE 19, 1974.

On July 18-19, 1974, there will be a meeting of the High Energy Physics Advisory Panel at the AEC Headquarters, Germantown, Maryland, in the Auditorium. Below is that portion of the agenda for this meeting which will be open to the public. Practical considerations may require changes in the agenda or schedule.

THURSDAY, JULY 18, 1974

- 10:30 a.m.--- Report of Subpanel on Response of High Energy Physics to the Challenges of the Energy Crisis; J. Sandweiss; Discussion.
- 11:30 a.m.--- Report of Subpanel on Health of High Energy Physics—D. Cline; Discussion.
- 12:30 p.m.--- Lunch.
- 1:30 p.m.--- Report of Subpanel on Future High Energy Physics Facilities—V. F. Weisskopf; Discussion.
- 6:30 p.m.--- Adjourn.

FRIDAY, JULY 19, 1974

- 8:30 a.m.--- Discussion of ZGS Study—J. Teem, R. Drew and R. Walker.
- 12:00 Noon. Lunch.

In addition to the above items, the Panel plans to hold two (2) executive sessions. The first is scheduled on Thursday morning prior to the beginning of the open session, and the second will be on Friday afternoon. I have determined, in accordance with subsection 10(d) of Public Law 92-463 that these executive sessions will consist of an exchange of opinions and formulation of recommendations, the discussion of which, if written, would fall within exemption (5) of 5 U.S.C. 552(b). It is essential to close

these portions of the meeting to protect the free interchange of internal views and to avoid interference with Agency or Committee operation.

The Chairman is empowered to conduct the meeting in a manner that in his judgment will facilitate the orderly conduct of business.

With respect to public participation in agenda items scheduled above, the following requirements shall apply:

(a) Persons wishing to submit written statements on those agenda items may do so by mailing 25 copies thereof, postmarked, if possible, no later than July 8, 1974, to the Executive Secretary, High Energy Advisory Panel, Dr. Raymond L. Fricken, Division of Physical Research, Washington, D.C. 20545. Minutes of the meeting will be kept open for 30 days for receipt of written statements for the record.

(b) Those persons submitting a written statement in accordance with paragraph (a) above may request an opportunity to make oral statements concerning the written statement. Such requests shall accompany the written statement, and shall set forth reasons justifying the need for such oral statements and their usefulness to the Panel. To the extent that the time available for the meeting permits, the Panel will receive oral statements during a period of not more than 30 minutes at an appropriate time, chosen by the Chairman.

(c) Requests for the opportunity to make oral statements shall be ruled on by the Chairman of the Panel, who is empowered to apportion the time available among those selected by him to make oral statements.

(d) Information as to the Chairman's ruling on requests for the opportunity to present oral statements, and the time allotted, can be obtained by a prepaid telephone call to the office of the Executive Secretary of the Panel. His telephone number is Area Code 301-973-3624.

(e) Questions at the meeting may be asked only by members of the Advisory Panel.

(f) Seating for the public will be made available on a first-come, first-served basis.

(g) Copies of minutes of public sessions will be made available for copying, following their acceptance by the Panel at its next meeting, in accordance with the Federal Advisory Committee Act, at the Atomic Energy Commission's Public Document Room, 1717 H Street, NW., Washington, D.C., upon payment of all charges required by law.

JOHN C. RYAN,
Advisory Committee
Management Office.

[FR Doc.74-14384 Filed 6-21-74; 8:45 am]

[Docket Nos. 50-461 and 50-462]

ILLINOIS POWER CO.

Availability of Draft Environmental Statement

Pursuant to the National Environmental Policy Act of 1969 and the U.S.

Atomic Energy Commission's regulations mental Policy Act of 1969 and the U.S.

Pursuant to the National Environmental Policy Act of 1969 and the U.S. Atomic Energy Commission's regulations in Appendix D to 10 CFR Part 50, notice is hereby given that a Draft Environmental Statement prepared by the Commission's Directorate of Licensing related to the proposed Clinton Power Station, Units 1 and 2, to be constructed by the Illinois Power Company in Harp Township, DeWitt County, Illinois, is available for inspection by the public in the Commission's Public Document Room at 1717 H Street, NW, Washington, D.C., and in the Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727. The Draft Environmental Statement is also being made available at the Illinois State Clearinghouse, Room 103 State Capitol, Springfield, Illinois 62706. Copies of the Commission's Draft Environmental Statement may be obtained by request addressed to the U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing. The Environmental Report, as supplemented, submitted by Illinois Power Company, is also available for public inspection at the above-designated locations. Notice of availability of the Applicant's Environmental Report was published in the FEDERAL REGISTER on December 14, 1973 (38 FR 34483).

Pursuant to 10 CFR Part 50, Appendix D, interested persons may submit comments on the Applicant's Environmental Report, as supplemented, and the Draft Environmental Statement for the Commission's consideration. Federal and State agencies are being provided with copies of the Applicant's Environmental Report and the Draft Environmental Statement (local agencies may obtain these documents upon request). Comments are due by August 12, 1974. Comments by Federal, State and local officials, or other persons received by the Commission will be made available for public inspection at the Commission's Public Document Room in Washington, D.C. and at the Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois. Upon consideration of comments submitted with respect to the Draft Environmental Statement, the Regulatory staff will prepare a Final Environmental Statement, Notice of the availability of which will be published in the FEDERAL REGISTER.

Comments on the Draft Environmental Statement from interested members of the public should be addressed to the U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing.

Dated at Bethesda, Maryland, this 19th day of June, 1974.

For the Atomic Energy Commission.

B. J. YOUNGBLOOD,
Chief, Environmental Projects
Branch 3, Directorate of Licensing.

[FR Doc.74-14386 Filed 6-21-74; 8:45 am]

[Docket Nos. 50-461 and 50-462]

ILLINOIS POWER CO.**Notice of Reconstitution of Board**

In the matter of Illinois Power Company (Clinton Power Station).

Dr. William E. Martin was a member of the Atomic Safety and Licensing Board established to consider the above applications. Because of scheduling conflicts, Dr. Martin is unable to continue as a member of this Board.

Accordingly, Dr. J. Venn Leeds, Jr., whose address is Richardson College of Rice University, P.O. Box 941, Houston, Texas 77001, is appointed a member of this Board. Reconstitution of the Board in this manner is in accordance with § 2.721 of the rules of practice, as amended.

Dated at Bethesda, Md., this 18th day of June 1974.

NATHANIEL H. GOODRICH,
Chairman, Atomic Safety and
Licensing Board Panel.

[FR Doc.74-14379 Filed 6-21-74;8:45 am]

[Docket No. 50-410]

NIAGARA MOHAWK POWER CORPORATION (NINE MILE POINT, UNIT NO. 2)**Assignment of Members of Atomic Safety and Licensing Appeal Board**

Notice is hereby given that, in accordance with the authority in 10 CFR 2.787 (a), the Chairman of the Atomic Safety and Licensing Appeal Panel has assigned the following panel members to serve as the Atomic Safety and Licensing Appeal Board for this proceeding:

William C. Parler, Chairman
Dr. W. Reed Johnson, Member
Richard S. Salzman, Member

Dated: June 18, 1974.

MARGARET E. DU FLO,
Secretary to the Appeal Board.

[FR Doc.74-14376 Filed 6-21-74;8:45 am]

[Docket No. 50-201]

NUCLEAR FUEL SERVICES, INC.**Notice of Reconstitution of Board**

In the matter of Nuclear Fuel Services, Inc. (West Valley Reprocessing Plant).

Dr. William E. Martin was a member of the Atomic Safety and Licensing Board established to consider the above application. Because of scheduling conflicts, Dr. Martin is unable to continue as a member of this Board.

Accordingly, Dr. Frederick P. Cowan, whose address is 22 Browns Lane, Bellport, New York 11713, is appointed a member of this Board. Reconstitution of the Board in this manner is in accordance with § 2.721 of the rules of practice, as amended.

Dated at Bethesda, Md., this 18th day of June 1974.

NATHANIEL H. GOODRICH,
Chairman, Atomic Safety and
Licensing Board Panel.

[FR Doc.74-14378 Filed 6-21-74;8:45 am]

[Docket Nos. 50-448 and 50-449]

POTOMAC ELECTRIC POWER CO.**Notice of Oral Argument**

In the matter of Potomac Electric Power Company (Douglas Point Nuclear Generating Station, Units 1 and 2).

Notice is hereby given that, in accordance with the Atomic Safety and Licensing Appeal Board's Order of June 14, 1974, oral argument involving application of the Commission's new regulation for evaluating the environmental effects of the uranium fuel-cycle (39 F.R. 14188, 14191, April 22, 1974) to this licensing proceeding has been calendared for 10 a.m. on Friday, June 28, 1974 in the hearing room of the Appeal Panel located on the fifth floor of East West Towers Buildings, 4350 East-West Highway, Bethesda, Maryland.

For the Atomic Safety and Licensing Appeal Board.

MARGARET E. DU FLO,
Secretary to the Appeal Board.

JUNE 18, 1974.

[FR Doc.74-14381 Filed 6-21-74;8:45 am]

[Docket No. 50-396]

UNIVERSITY OF VIRGINIA**Notice of Proposed Issuance of Facility Operating License**

Notice is hereby given that the Atomic Energy Commission ("the Commission") is considering the issuance of a facility operating license to the University of Virginia that would authorize the University to possess, use and operate the low power Cooperatively Assembled Virginia Low-Intensity Educational Reactor (CAVALIER) for educational and training purposes. The CAVALIER, located on the University's campus in Charlottesville, Virginia, will operate at steady state power levels not in excess of 100 watts (thermal).

The Commission will consider the issuance of the facility operating license upon: (1) a finding by the Commission that the application complies with the requirements of the Atomic Energy Act of 1954, as amended ("the Act"), and the Commission's regulations in 10 CFR Chapter I, (2) a finding that the facility authorized has been constructed in conformity with Construction Permit No. CPRR-115, and will operate in conformity with the application, provisions of the Act and of the rules and regulations of the Commission, and (3) the completion of a favorable Safety Evaluation on the application by the Commission's Directorate of Licensing.

On or before July 24, 1974, the applicant may file a request for a hearing and any person whose interest may be affected by this proceeding may file a petition for leave to intervene. Requests for a hearing and petitions to intervene shall be filed in accordance with the Commission's "Rules of Practice" in 10 CFR Part 2. If a request for a hearing or a petition for leave to intervene is filed within the time prescribed in this notice, the Com-

mission will issue a notice of hearing or an appropriate order.

For further details with respect to this facility operating license, see the application for license and the Safety Analysis Report dated September 21, 1973, and supplements dated November 26 and December 7, 1973, February 11 and April 23, 1974, which are available for public inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. The license, Technical Specifications and the Safety Evaluation by the Directorate of Licensing will be made available for inspection at the above location when completed.

A copy of the application and, when available, the license, Technical Specifications and the Safety Evaluation may be obtained by request to the U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Deputy Director for Reactor Projects, Directorate of Licensing.

Dated at Bethesda, Maryland, this 17th day of June.

For the Atomic Energy Commission.

ROBERT A. PURPLE,
Chief, Operating Reactors
Branch #1, Directorate of
Licensing.

[FR Doc.74-14375 Filed 6-21-74;8:45 am]

[Docket Nos. 50-338 and 50-339]

VIRGINIA ELECTRIC AND POWER CO.**Notice of Reconstitution of Board**

In the matter of Virginia Electric and Power Company (North Anna Power Station Units 1 and 2).

Dr. Emil T. Chanlett was a member of the Atomic Safety and Licensing Board established to consider the above applications. Dr. Chanlett is not available for service on this Board.

Accordingly, Mr. Lester Kornblith, Jr., whose address is Atomic Safety and Licensing Board Panel, U.S. Atomic Energy Commission, Washington, D.C. 20545, is appointed a member of this Board. Reconstitution of the Board in this manner is in accordance with § 2.721 of the rules of practice, as amended.

Dated at Bethesda, Md., this 18th day of June 1974.

NATHANIEL H. GOODRICH,
Chairman, Atomic Safety and
Licensing Board Panel.

[FR Doc.74-14377 Filed 6-21-74;8:45 am]

CIVIL AERONAUTICS BOARD

[Order 74-6-89, Dockets 26463 and 26603]

**AMERICAN AIRLINES, INC., ET AL.
Puerto Rico/Virgin Islands Freight Rates**

Adopted by the Civil Aeronautics Board at its office in Washington, D.C. on the 18th day of June, 1974.

In the matter of increased freight rates and charges between points in the U.S. and points in Puerto Rico/Virgin Islands proposed by American Airlines, Inc., Eastern Airlines, Inc., and Pan American World Airways, Inc.

By Order 74-2-128, adopted February 28, 1974, the Board suspended and instituted an investigation, Docket 26463,¹ of certain increased freight rates and charges proposed between points in the U.S. and San Juan by American Airlines, Inc. (American), Eastern Air Lines, Inc. (Eastern), and Pan American World Airways, Inc. (Pan American), the last marked to become effective March 1. By document filed March 20, Pan American submitted a motion for leave to file an otherwise unauthorized document, a late-filed petition requesting that the Board reconsider the foregoing order, and permit Pan American's increased rates to become effective.²

In support of its motion, Pan American asserts that it miscalculated the dates in the proceeding, and thus filed the petition late, and that the untimeliness would neither prejudice any party nor give Pan American any special advantage. In view of all relevant circumstances, the Board has decided to grant the motion to accept the petition for reconsideration, and to reconsider Order 74-2-128 on its merits.

In support of that petition, the carrier asserts, *inter alia*, that (1) the rates for weight-breaks which were to have been cancelled are in reality paper rates, and that, during the past several years, neither Pan American nor the carriers participating in the joint carriage have had local rates at those weight-breaks; (2) prior to the establishment of through joint rates, Pan American combined local rates, which were higher than both the present and proposed joint rates; (a) joint rates necessarily involve more costly interline operations, and must be prorated between two carriers; and (b) under the Board's view, Pan American has adequately justified a rate increase for carrying local traffic the 1,040 miles between San Juan and Miami—therefore, when that cargo originates off-line and is transferred to Pan American at Miami, the same cost justification for the same 1,040-mile transportation is equally valid; and (3) Airlift International, Inc. (Airlift) was permitted to effect both cancellations of high weight-breaks and increases in the U.S.-San Juan market in January 1974 in Order 74-1-155.

The first of Pan American's arguments, that the weight-breaks proposed to be canceled were paper rates, was not clearly indicated by the carrier in its original justification of its tariff proposal.

¹ By Order 74-4-76, April 12, 1974, the Board instituted an investigation of all freight rates between points in the United States, on the one hand, and points in Puerto Rico and the Virgin Islands, on the other, entitled *Puerto Rico/Virgin Islands Freight Rates*, Docket 26603. The investigation instituted in Docket 26463 was consolidated into the latter investigation.

² The Board's Regulation, 14 CFR 302.37, provides that a petition for reconsideration of an interlocutory order is due within 10 days after service. Pan American's petition was due March 11, but was not received until March 20.

In that statement, the carrier asserted that "a minimal number of shipments are made at these weight-breaks and their cancellation will provide an incentive to shippers to utilize the lower container and pallet rates." Assuming that the fact is that essentially no traffic is moving at those weight-breaks, we shall lift the suspension of the cancellation thereof and permit such cancellation subject to the investigation in Docket 26603.

In its second major argument, Pan American requests reconsideration of the Board's suspension of the longer-haul rates. It apparently contends that, because its own local rates, such as Miami-San Juan, have been found consistent with costs by the Board, the carrier should be permitted to receive the same revenues from that movement when it is part of an interline movement. The Board cannot conclude that this is the criterion to be utilized in reconsidering its decision suspending the rates referred to by Pan American. In this regard, in Order 74-2-128, *supra*, the Board found that the rates suspended, covering hauls of 2,200 miles or more, appeared excessive in relation to costs available to the Board. Pan American in its petition submitted no data to contravert the costs utilized in that order, and we will, without prejudice to the decision that we may reach in Docket 26603, the Puerto Rico/Virgin Islands Freight Rates investigation, rely upon such costs in considering the petition for reconsideration. Further, we do not consider Pan American's local rates between Miami and San Juan as the appropriate criterion of the level of its share of the long haul-rates in issue, *e.g.*, Los Angeles-San Juan. In this connection, the carrier's share of the latter rates would seem to depend upon interline agreements with other carriers, and the divisions of these rates are not in issue at this time.

In view of the foregoing and all other relevant factors on reconsideration of Order 74-2-128, the Board will vacate its suspension of Pan American's cancellation of weight-breaks at the 5,000- and 10,000-pound rates previously proposed. In all other respects, however, the carrier's request for vacation of the suspensions in Order 74-2-128 will be denied.

Accordingly, pursuant to the Federal Aviation Act of 1958, and particularly sections 204(a) and 1002 thereof,

It is ordered that:

1. Pan American World Airways, Inc.'s motion for leave to file an otherwise unauthorized document is granted;
2. Pan American World Airways, Inc.'s petition for the Board to reconsider Order 74-2-128 is granted;
3. Upon reconsideration of Order 74-2-128, the suspension of Pan American World Airways, Inc.'s cancellation of weight-breaks at 5,000 and 10,000 pounds is vacated. In all other respects, the request for vacation of the suspensions in Order 74-2-128 is denied; and

4. Copies of this order shall be filed with the tariffs and served upon all parties to Docket 26603.

This order will be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board:

[SEAL] EDWIN Z. HOLLAND,
Secretary.

[FR Doc. 74-14395 Filed 6-21-74; 8:45 am]

[Order 74-6-91; Docket 26675]

AIR FRANCE, ET AL.

Order Dismissing Complaint

Adopted by the Civil Aeronautics Board at its office in Washington, D.C., on the 18th day of June, 1974.

In the matter of high weightbreak specific commodity rates proposed by Air France, KLM Royal Dutch Airlines, Sabena Belgian World Airlines, Seaboard World Airline, Inc., and Swiss Air Transport Company.

By a complaint filed May 8, 1974, Pan American World Airways, Inc. (Pan American) requests suspension and investigation of tariff revisions for transatlantic high weightbreak (15,000 and 30,000 kg.) specific commodity rates¹ filed by Air France, KLM Royal Dutch Airlines (KLM), Sabena Belgian World Airlines (Sabena), Seaboard World Airlines, Inc. (Seaboard) and the Swiss Air Transport Company (Swissair).² An answer supporting the complaint has been filed by Trans World Airlines, Inc. (TWA), and answers opposing the complaint have been filed by Swissair, Sabena and Seaboard.

The Swissair tariff revisions were rejected by the Board's Tariffs Section on May 21, 1974, and accordingly the only substantive portions of the complaint and answers remaining deal with rates to/from France and Belgium. Specifically, these include bulk and container rates for 15,000 kg. shipments, and container rates for 30,000 kg. shipments.³

In support of its complaint, Pan American contends that the new rates were not contained in the IATA North Atlantic Cargo Rate Agreement approved by the Board in Order 74-4-6 (which included 30,000 kg. bulk commodity rates); that acceptance of these new, reduced specific commodity rates represents abandonment of the progress achieved by the above-mentioned agreement in reducing the disparity between general and specific commodity rates;

¹ The proposal includes rates for a broad spectrum of specific commodities between the United States, on the one hand, and France, Belgium and Switzerland, on the other.

² Air Tariffs Corp. Agent, Tariffs C.A.B. Nos. 26 and 37; and Swiss Air Transport Company, Tariff C.A.B. No. 35. The revisions here at issue were published for effectiveness May 31, 1974.

³ The rates are outlined in the appendix filed as part of the original document.

and that the rates are uneconomic on their face and should be suspended.⁴

In answer to the complaint, Seaboard asserts that the proposed rates for France and Belgium merely maintain the previously existing relationship with 30,000 kg. bulk specific commodity rates, which are now being increased pursuant to the IATA agreement approved by the Board. Additionally, Seaboard alleges in support of the 30,000 kg. container rates, that lower handling costs for unitized shipments would result in a \$1,218 profit per flight on the basis of the costs cited in Pan American's complaint.⁵

Upon full consideration of the complaint, the answers and all other relevant matters, the Board has determined to dismiss the complaint. The Board has dismissed previous Pan American complaints⁶ against the protested rates for France and Belgium, which have since been increased to compensate for escalating fuel prices, on the grounds that the rates did not appear to be uneconomic, diversionary or dilutionary. The presently proposed rates involve further increases to maintain existing differentials between these rates and the 30,000 kg. bulk commodity rates included in the Board-approved IATA agreement to which Pan American is a party, and the complainant has presented no arguments not previously disposed of in the orders dismissing its previous complaints.⁷ Although the protested rates are not included in the agreement, they were widely discussed at the IATA conferences which promulgated the agreement, and the minutes of the conferences make it clear that continued availability of these government-ordered 15,000 kg. rates and unitized 30,000 kg. rates was a condition insisted on by several carriers.

Accordingly, pursuant to the Federal Aviation Act of 1958, and particularly sections 204(a) and 1002 thereof,

It is ordered that:

The complaint of Pan American World Airways, Inc. in Docket 26675 be and hereby is dismissed.

This order will be published in the FEDERAL REGISTER.

⁴ Here Pan American states that its current transatlantic costs in scheduled freighter service are \$5.16/mile, or \$18,766 New York-Paris. The proposed container rates would yield only \$18,000, resulting in a \$766 loss. However, even this loss is understated, Pan American alleges, since only 13 igloos, or 23,000 kgs. at average density can be accommodated on a single flight. Therefore the revenue is only \$13,800, for a loss of over \$5,000 on a single flight.

⁵ Seaboard also expresses surprise that Pan American cannot accommodate 13 pallets with a total weight of 30,000 kgs.—or an average weight of 5100 lbs./pallet—on one flight.

⁶ By Orders 73-3-77 (March 21, 1973) and 73-5-136 (May 30, 1973).

⁷ Suspension as requested would result in a continuance of the lower rates in effect immediately prior to the filing of the new tariff.

By the Civil Aeronautics Board:

[SEAL] EDWIN Z. HOLLAND,
Secretary.
[FR Doc.74-14396 Filed 6-21-74;8:45 am]

CIVIL SERVICE COMMISSION

EMPLOYEE ADVISORY COMMITTEE ON HEALTH BENEFITS Meeting

Notice is hereby given pursuant to P.L. 92-463, that the Employee Advisory Committee on Health Benefits, established by section 8911 of title 5, United States Code, which advises the Commission regarding matters of concern to employees under the Federal Employees Health Benefits Program, will meet on Monday, July 15, 1974, at 9:30 a.m. in Room 1304, Civil Service Commission Building, 1900 E Street NW., Washington, D.C.

Agenda items are as follows:

1. Legislative proposal to defer the January 1, 1975, effective date of section 210 of Public Law 92-603 (the Social Security Amendments of 1972), which mandates an adjustment of benefits and premiums for Federal employees and annuitants under the Federal Employees Health Benefits law who are also entitled to benefits under Medicare.
2. The Bureau's report on Comparison of Federal Employees Health Benefits with those offered by a sampling of large private and public employers.
3. Annual Report of Financial and Statistical Data for Fiscal Year Ended June 30, 1973, on the Federal Employees Health Benefits Program.
4. Trends in health care costs for the past two years and future cost implications.
5. Progress report on the implementation of the provision of Public Law 93-246, which allows annuitants who are enrolled, or are eligible to enroll, in the Retired Federal Employees Health Benefits Program to elect to be covered under the Federal Employees Health Benefits Program.

The meeting on the above agenda items is open to the public. At this time, the Bureau knows of no other substantive matters to be considered at the meeting. Any interested person may attend, appear before the committee, or file statements on the agenda items or on such other matters which, at the discretion of the Chairman, may properly come before the committee. Statements, if in written form, may be filed in advance of or at the meeting or, if oral, at the time and in the manner permitted by the Chairman.

Further information concerning this meeting may be obtained from Mr. Robert W. Tolson, Room 4351, Civil Service Commission Building, telephone 202-632-9677. Members of the public planning to attend the meeting are asked to notify Mr. Tolson to ensure adequate seating.

Dated: June 17, 1974.

THOMAS A. TINSLEY,
Director, Bureau of Retirement,
Insurance and Occupational
Health.

[FR Doc.74-14393 Filed 6-21-74;8:45 am]

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

CERTAIN COTTON TEXTILES AND COTTON TEXTILE PRODUCTS PRODUCED OR MANUFACTURED IN MEXICO

JUNE 19, 1974.

On August 26, 1971, there was published in the FEDERAL REGISTER (36 FR 16957) a letter dated August 23, 1971 from the Chairman, President's Cabinet Textile Advisory Committee, to the Commissioner of Customs, prohibiting entry into the United States for consumption and withdrawal from warehouse for consumption of cotton textiles and cotton textile products produced or manufactured in Mexico and exported from Mexico for which the Government of Mexico had not issued a visa. One of the requirements is that each visa include the signature of an official authorized to issue visas. The Government of Mexico has requested that Gabriel Zorrilla Martinez, Jorge Orvananos Lascuain, and Arturo Galindo Munoz be authorized to issue visas replacing Jose Arango Rojas, Daniel Basulto Verduzco, and Hermenegildo Delgado Cardena. This list of officials was previously amended on August 23, 1972 (37 FR 17507) and February 27, 1974 (39 FR 8375).

Accordingly, there is published below a letter of June 19, 1974 from the Chairman of the Committee for the Implementation of Textile Agreements to the Commissioner of Customs further amending the directive of August 23, 1971, effective as soon as possible. Facsimiles of the signatures of the three newly-designated officials are filed as part of the original document with the Office of the Federal Register. A complete list of Mexican officials currently designated to issue visas is published as an enclosure to the letter to the Commissioner of Customs.

SETH M. BODNER,
Chairman, Committee for the
Implementation of Textile
Agreements, and Deputy As-
sistant Secretary for Re-
sources and Trade Assistance.

COMMITTEE FOR THE IMPLEMENTATION OF
TEXTILE AGREEMENTS

COMMISSIONER OF CUSTOMS,
Department of the Treasury,
Washington, D.C. 20229.

JUNE 19, 1974.

DEAR MR. COMMISSIONER: This directive further amends, but does not cancel, the directive of August 23, 1971 from the Chairman, President's Cabinet Textile Advisory Committee, that directed you to prohibit under certain specified conditions entry into the United States for consumption and withdrawal from warehouse for consumption of cotton textiles and cotton textile products in Categories 1 through 64, produced or manufactured in Mexico, for which the Government of Mexico had not issued an appropriate visa. One of the requirements is that each visa include the signature of a Mexican official authorized to issue visas. This list of signatures was previously amended by directives of August 23, 1972 and February 27, 1974.

Under the provisions of the Bilateral Cotton Textile Agreement of June 29, 1971 between the Governments of the United States and Mexico and in accordance with the procedures of Executive Order 11651 of March 3, 1972, the directive of August 23, 1971 is further amended, effective as soon as possible, to authorize Gabriel Zorrilla Martinez, Jorge Orvananos Lascruain and Arturo Galindo Munoz to issue visas in place of Jose Arango Rojas, Daniel Basulto Verduzco and Hermenegildo Delgado Cardena, who will no longer sign. A complete list of Mexican officials currently authorized to issue visas is enclosed.

The actions taken with respect to the Government of Mexico and with respect to imports of cotton textiles and cotton textile products from Mexico have been determined by the Committee for the Implementation of Textile Agreements to involve foreign affairs functions of the United States. Therefore, the directions to the Commissioner of Customs being necessary to the implementation of such actions, fall within the foreign affairs exception to the rule-making provisions of 5 U.S.C. 553. This letter will be published in the Federal Register.

Sincerely,

SETH M. BODNER,
Chairman, Committee for the Implementation of Textile Agreements,
and Deputy Assistant Secretary
for Resources and Trade Assistance.

OFFICIALS AUTHORIZED BY THE GOVERNMENT
OF MEXICO TO ISSUE VISAS

J. Guillermo Becker A.
Antonio Benitez Espindola
Jorge Orvananos Lascruain
Gabriel Zorrilla Martinez
Melquisedec Jimenez Mendez
Arturo Galindo Munoz
Cesar Franco Porras
Pablo H. Quiroga-Garza
Raymundo Apodaca Sanchez
Guillermo Ramos Uriarte
Juventino Martinez Velaz

[FR Doc.74-14423 Filed 6-21-74; 8:45 am]

COMMISSION ON CIVIL RIGHTS
SEX DISCRIMINATION
Notice of Hearing

Notice is hereby given, pursuant to the provisions of the Civil Rights Act of 1957, 71 Stat. 634, as amended, that a public hearing of the U.S. Commission on Civil Rights will commence on July 25, 1974, in Room 1220 of the Everett Dirksen Federal Building, 219 South Dearborn Street, Chicago, Illinois, and that an Executive Session will be held on July 24, 1974.

The purpose of the hearing is to collect information concerning legal developments constituting a denial of equal protection of the laws under the Constitution because of sex which affect the economic status of women, particularly concerning employment; to appraise the laws and policies of the Federal Government with respect to denials of equal protection of the laws under the Constitution because of sex which affect the economic status of women, particularly concerning employment; and to disseminate information with respect to denials of equal protection of the laws because of sex in the area of employment.

Dated at Washington, D.C., June 20, 1974.

ARTHUR S. FLEMMING,
Chairman.

[FR Doc.74-14491 Filed 6-21-74; 8:45 am]

ENVIRONMENTAL PROTECTION
AGENCY

[OPP-32000/72]

NOTICE OF RECEIPT OF APPLICATIONS
FOR PESTICIDE REGISTRATION

Data To Be Considered in Support of
Applications

On November 19, 1973, the Environmental Protection Agency published in the FEDERAL REGISTER (38 FR 31862) its interim policy with respect to the administration of section 3(c)(1)(D) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended (86 Stat. 979), and its procedures for implementation. This policy provides that EPA will, upon receipt of every application, publish in the FEDERAL REGISTER a notice containing the information shown below. The labeling furnished by the applicant will be available for examination at the Environmental Protection Agency, Room EB-37, East Tower, 401 M Street, SW., Washington, D.C. 20460.

On or before August 23, 1974, any person who (a) is or has been an applicant, (b) desires to assert a claim for compensation under section 3(c)(1)(D) against another applicant proposing to use supportive data previously submitted and approved, and (c) wishes to preserve his opportunity for determination of reasonable compensation by the Administrator must notify the Administrator and the applicant named in the FEDERAL REGISTER of his claim by certified mail. Every such claimant must include, at a minimum, the information listed in this interim policy published on November 19, 1973.

Applications submitted under 2(a) or 2(b) of the interim policy in regard to usage of existing supportive data for registration will be processed in accordance with existing procedures. Applications submitted under 2(c) will be held for the 60-day period before commencing processing. If claims are not received, the application will be processed in normal procedure. However, if claims are received within 60 days, the applicants against whom the particular claims are asserted will be advised of the alternatives available under the Act. No claims will be accepted for possible EPA adjudication which are received after this 60-day period.

APPLICATIONS RECEIVED

EPA File Symbol 34430-R. Agro Phosphate Co., Inc., P.O. Box 4309, Yuma, Arizona 85364. Agro Phosphate Sevimol 4 Carbaryl Insecticide. Active Ingredients: Carbaryl (1-naphthyl methylcarbamate) 40.38%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA Reg. No. 5481-123. Amvac Chemical Corporation, 4100 East Washington Boulevard, Los Angeles, California 90023. Durham Malathion EM 8. Active Ingredients: Malathion (O,O-Dimethyl Dithiophosphate of Diethyl Mercaptosuccinate) 82.0%; Aromatic Petroleum Derivative Solvents 3.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 12016-T. Anderson-Stolz Corp., 1727-33 Walnut St., Kansas City, Missouri 64108. Sol-Vet 426. Active Ingredients: Disodium cyanodithioimidocarbonate 3.18%; Ethylenediamine 1.20%; Potassium N-methyldithiocarbamate 4.37%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 6125-RA. Blixon Chemical Company, Division of ASL Enterprises, Inc., 50-19 97 Place, Corona, New York 11368. Pyrenone General Purpose Aqueous Insecticide. Active Ingredients: Pyrethrins 0.1%; Piperonyl Butoxide, technical 1.0%; Petroleum distillate 0.4%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 1833-U. Brilco Laboratories, 1551 63rd Street, Brooklyn, New York 11219. Brilco Residual Emulsifiable Insecticide Concentrate. Active Ingredients: Pyrethrins 0.50%; Piperonyl Butoxide, technical 1.00%; N-octyl bicycloheptene dicarboximide 1.50%; Chlorpyrifos [(O,O-diethyl O-) (3,5,6-trichloro-2-pyridyl) phosphorothioate] 2.53%; Aromatic petroleum distillate 1.42%; Petroleum distillate 87.88%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 1448-LG. Buckman Laboratories, Inc., 1256 N. McLean Blvd., Memphis, Tennessee 38108. BL Busan 881M. Active Ingredients: Disodium cyanodithioimidocarbonate 14.7%; Potassium N-methyldithiocarbamate 20.3%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 1409-UA. Chemware, Champion International, Industrial Chemical Products, 2305 Superior Ave., Kalamazoo, Michigan 49003. SSC-909 Sap Stain Control Concentrate. Active Ingredients: Pentachlorophenol 27.3%; Tetrachlorophenol 3.7%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 100-LGI. Home and Garden Products, Agricultural Division, CIBA-GEIGY Corporation, P.O. Box 11422, Greensboro, North Carolina 27409. Spectra-ride Garden Insect Dust. Active Ingredients: O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate 4%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 9640-RA. Vulcan Laboratories, Division of Clow Corporation, 408 Auburn Avenue, Pontiac, Michigan 48058. Microbiocide N. Active Ingredients: Disodium cyanodithioimidocarbonate 3.18%; Ethylenediamine 1.20%; Potassium N-methyldithiocarbamate 4.37%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 9640-RI. Vulcan Laboratories, Division of Clow Corporation. Microbiocide 1393. Active Ingredients: Disodium cyanodithioimidocarbonate 12.7%; Ethylenediamine 4.8%; Potassium N-methyldithiocarbamate 17.5%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 9640-RT. Vulcan Laboratories, Division of Clow Corporation. Microbiocide 1392. Active Ingredients: Disodium cyanodithioimidocarbonate 6.35%; Ethylenediamine 2.40%; Potassium N-methyldithiocarbamate 8.75%. Method of Support: Application proceeds under 2(b) of interim policy.

- EPA File Symbol 4582-AE. Colgate-Palmolive Company, 300 Park Avenue, New York, New York 10022. *Floor 'N More Germicidal Cleaner*. Active Ingredients: Sodium xylene sulfonate 7.50%; Sodium o-benzyl-p-chlorophenolate 6.60%; N-Hydroxyethyl ethylenediaminetriacetic acid, disodium salt 4.07%; Sodium Dodecylbenzene sulfonate 4.00%; N-Hydroxyethyl ethylenediaminetriacetic acid trisodium salt 0.65%. Method of Support: Application proceeds under 2(a) of interim policy.
- EPA File Symbol 10806-GA. Contact Industries, Inc., 850 So. Oyster Bay Rd., Hicksville, New York 11801. *Contact Super Slay Wasp and Hornet Spray*. Active Ingredients: Pyrethrins 0.10%; Piperonyl butoxide, technical 0.20%; N-octyl bicycloheptene dicarboximide 0.33%; o-Isopropoxyphenyl Methylcarbamate 0.50%; Petroleum distillate 3.87%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 10806-GT. Contact Industries, Inc., 850 So. Oyster Bay Rd., Hicksville, New York 11801. *Contact Residual Liquid Insecticide*. Active Ingredients: Pyrethrins 0.050%; Piperonyl butoxide, technical 0.100%; N-octyl bicycloheptene dicarboximide 0.166%; Chlorpyrifos [O,O-diethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate] 0.500%; Aromatic petroleum distillate 0.290%; Petroleum distillate 98.894%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 34282-E. Dickler Chemical Laboratories, Inc., P.O. Box 19536, Philadelphia, Pennsylvania 19124. *Quat-Klean, Cleaner-Disinfectant - Deodorizer-Fungicide-Virucide*. Active Ingredients: Didecyl dimethyl ammonium chloride 2.5%; Tetrasodium ethylenediamine tetraacetate 2.0%; Sodium carbonate 1.5%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 34282-G. Dickler Chemical Laboratories, Inc. *Minto-Ds, Cleaner-Disinfectant-Deodorizer-Fungicide*. Active Ingredients: Didecyl dimethyl ammonium chloride 4.5%; Tetrasodium ethylenediamine tetraacetate 2.0%; Sodium carbonate 1.0%; Sodium metasilicate, anhydrous 0.5%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 34282-R. Dickler Chemical Laboratories, Inc. *Pine-Ds, Cleaner-Disinfectant-Deodorizer-Fungicide*. Active Ingredients: Didecyl dimethyl ammonium chloride 4.25%; Tetrasodium ethylenediamine tetraacetate 1.60%; Sodium carbonate 2.00%; Sodium metasilicate, anhydrous 0.50%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 33914-R. Dixie Agricultural Chemical Company, P.O. Box 1227, Eustis, Florida 32726. *Dixie AG Diazinon 4 EC Insecticide*. Active Ingredients: O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate 48.00%; Xylene 38.88%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 32972-G. Eclochem, P.O. Box 844, 1265 Burlington Street, Opa-Locka, Florida 33054. *DCA-20*. Active Ingredients: Disodium cyanodithiolimidocarbonate 3.63%; Ethylenediamine 1.37%; Potassium N-methyldithiocarbamate 5.00%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 3770-GRN. Economy Products Company, Inc., P.O. Box 427, Shenandoah, Iowa 51601. *Garden Bug Dust*. Active Ingredients: Manganese Ethylene Bis-dithiocarbamate 5.00%; Methoxychlor, technical 3.00%; Rotenone 0.75%; Other Cube Resins 1.50%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 270-RNR. Farnam Companies, Inc., P.O. Box 21447, Omaha, Nebraska 68112. *Farnam "New Dimension" Fly Killer*. Active Ingredients: Erythresin B Dye 0.20%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 8540-RA. Garratt-Callahan Co., 111 Rollins Rd., Millbrae, California 94030. *Garratt-Callahan Formula 36-A Water Treatment Microbiocide*. Active Ingredients: Sodium dichloro-S-triazine-trione dihydrate 28.5%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 8540-RL. Garratt-Callahan Co., 111 Rollins Rd., Millbrae, California 94030. *Garratt-Callahan Formula 34-A Water Treatment Microbiocide*. Active Ingredients: N-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chloride 12.5%; Isopropyl alcohol 5.0%; Bis (tri-n-butyltin) oxide 2.5%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 10183-EE. Haviland Products, 421 Ann Street, N.W., Grand Rapids, Michigan 49504. *Concentrated Algacide*. Active Ingredients: Poly[oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] 10.0%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 10183-EG. Haviland Products. *Algacide*. Active Ingredients: Poly[oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] 10.0%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 10183-ER. Haviland Products. *Winterizer*. Active Ingredients: Poly[oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] 10.0%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 5905-URI. Helena Chemical Company, Clark Tower, 5100 Poplar Ave., Suite 2900, Memphis, Tennessee 38137. *Helena End-O-Sulfan 3 E.C. (Insecticide)*. Active Ingredients: Endosulfan (Hexachlorohexahydromethano-2,4,3-benzodioxathiepin oxide) 33.70%; Xylene base aromatic petroleum solvent 60.50%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 9594-RG. Intercontinental Chemical Corporation, P.O. Box 15318, Sacramento, California 95813. *ICC Concentrated Spray Emulsifiable Concentrate*. Active Ingredients: Pyrethrins 1.0%; Piperonyl Butoxide, Technical 10.0%; Petroleum Distillate 79.0%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 9594-RG. Intercontinental Inc., The Dune Company, P.O. Box 458, Calipatria, California 92233. *Prokil Methomyl Cryolite 2-50 Dust*. Active Ingredients: Methomyl (S-methyl-N-[(methylcarbamoyl)oxy] Triacetimidate) 1.8%; Sodium Fluoaluminate 46.0%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 10163-AL. Jessen & Co., Inc., The Dune Company. *Prokil Methomyl B.T. 2-2 Dust*. Active Ingredients: Methomyl S-methyl-N-[(methylcarbamoyl)oxy] thioacetimidate 2.00%; BT—a pure culture containing 1/2-billion viable spores of the microorganism *Bacillus thuringiensis* Berliner per gram of product. Each milligram of dust contains 320 international units of activity—0.05%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 10163-AG. Jessen & Co., Inc., The Dune Company. *Prokil Methomyl 2 Dust*. Active Ingredients: Methomyl S-methyl-N-[(methylcarbamoyl)oxy] thioacetimidate 2.00%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA Reg. No. 7675-4. Lithium Corporation of America, P.O. Box 795, Bessemer City, North Carolina 28016. *Lithcoa Lithium Hypochlorite Dry Chlorine Sanitizer*. Active Ingredients: Lithium Hypochlorite 29%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 2881-LI. Lystads, Incorporated, 901 University Ave., Grand Forks, North Dakota 58201. *Lystads Sanitize II, Disinfectant, Sanitizer, Deodorizer*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 5%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 5%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 2881-LO. Lystads, Incorporated. *Lystads Surcide I, Concentrated Detergent, Sanitizer, Fungicide, Disinfectant, Deodorizer*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 4.5%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 4.5%; Tetrasodium ethylenediamine tetraacetate 2.0%; Sodium Carbonate 4.0%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 2881-LT. Lystads, Incorporated. *Lystads Sursan II, Cleaner, Disinfectant, Deodorizer, Fungicide*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 2.25%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 2.25%; Sodium Carbonate 3.00%; Tetrasodium ethylenediamine tetraacetate 1.00%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 27581-E. Midland Research Laboratories, Inc., 8429 Quivira Road, Lenexa, Kansas 66215. *Chem-I-Cal 605*. Active Ingredients: Poly[oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] 15.0%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 10465-L. Mineral Research and Development Corporation, P.O. Box 911, Charlotte, North Carolina 28231. *Podox-C-WP, A Dry Wettable Powder Fungicide for Aid in Reduction of Peanut Pod Rot Diseases*. Active Ingredients: Copper, metallic (from Copper Ammonium Carbonate) 12.25%; Captan-N-[(trichloromethyl) thio]-4 cyclohexene-1,2-dicarboximide 40.00%. Method of Support: Application proceeds under 2(c) of interim policy.
- EPA File Symbol 2675-RE. National Purity Soap & Chemical Company, 110 Fifth Avenue S.E., Minneapolis, Minnesota 55414. *Quanasco 100 Liquid Detergent Sanitizer*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 2.25%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 2.25%; Sodium Carbonate 3.00%. Method of Support: Application proceeds under 2(b) of interim policy.
- EPA File Symbol 2675-RG. National Purity Soap & Chemical Company. *N.P.S. Sanitizing Agent II*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 5%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 5%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 2675-RN. National Purity Soap & Chemical Company. *Aseptic-Clean II*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 4.5%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 4.5%; Tetrasodium ethylenediamine tetraacetate 2.0%; Sodium Carbonate 4.0%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 2675-RR. National Purity Soap & Chemical Company. *National Purity Liquid Dairy Sanitizer*. Active Ingredients: n-Alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chlorides 5.0%; n-Alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chlorides 5.0%; Phosphoric Acid 30.0%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 7001-ROR. Occidental Chemical Company, P.O. Box 198, Lathrop, California 95330. *Best Rat-A-Phide Zinc Phosphide Rat Bait*. Active Ingredients: Zinc Phosphide 1.88%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 9123-RL. Magnolia Fertilizer Co., Division Pace National Corp., 500 7th Ave., South, Kirkland, Washington 98033. *Weed and Feed Fertilizer 10-3-6*. Active Ingredients: Technical chlordane 0.60%; 2,4-dichlorophenoxyacetic acid 0.50%; Silvex (2-(2,4,5-trichlorophenoxy) propionic acid) 0.15%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 1007-TO. Chemicals Division, Pfizer, Inc., 235 East 42nd Street, New York, New York 10017. *Terramycin Tree Injection Formula, For Control of Pear Decline*. Active Ingredients: oxytetracycline Hydrochloride 21.6%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA Reg. No. 359-620. Chipman Division of Rhodia Inc., 23 Belmont Dr., Somerset, New Jersey 08873. *Zolone EC for the Control of Insect Pests and Spider Mites, Product No. 3485*. Active Ingredients: Phosalone [O,O-diethyl S-(6-chloro-2-oxo benzoxazolin-3-yl) methyl] phosphorodithioate] 34.4%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA Reg. No. 359-626. Chipman Division of Rhodia Inc., 23 Belmont Dr., Somerset, New Jersey 08873. *Zolone WP, Product No. 3486*. Active Ingredients: Phosalone [O,O-diethyl S-(6-chloro-2-oxo benzoxazolin-3-yl) methyl] phosphorodithioate] 25.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 523-IE. Roberts Laboratories, 4995 North Main Street, Rockford, Illinois 61101. *Dairy Room & Food Plant Insecticide Concentrate*. Active Ingredients: Pyrethrins 10.00%; Piperonyl Butoxide 50.00%; Petroleum Distillate 40.00%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 523-IG. Roberts Laboratories. *Roach & Ant Insecticide Manufacturing Concentrate*. Active Ingredients: O,O-diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate 34.50%; Pyrethrins 5.00%; Technical piperonyl butoxide (equivalent to .209% (butylcarbityl) (6-propylpiperonyl) ether and .052% other related compounds) 25.00%; Petroleum Distillate 26.50%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 523-IN. Robert Laboratories. *Total Insecticide Manufacturing Concentrate*. Active Ingredients: Pyrethrins 2.374%; Piperonyl Butoxide 11.870%; Petroleum Distillate 85.756%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 523-IR. Roberts Laboratories. *Vapona Farm & Home Insecticide Concentrate*. Active Ingredients: 2,2-dichlorovinyl dimethyl phosphate 27.64%; Related Compounds 6.84%; Pyrethrins 6.89%; Technical Piperonyl Butoxide 27.59%; Petroleum Distillate 27.59%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA Reg. No. 201-318. Shell Chemical Company, Suite 300, 1700 K Street, N.W., Washington, D.C. 20006. *RAVAP Backrubber Solution Ready-To-Use Insecticide*. Active Ingredients: 2-chloro-1-(2,4,5-trichlorophenyl) vinyl dimethyl phosphate 1.00%; 2,2-dichlorovinyl dimethyl phosphate 0.23%; Related Compounds 0.02%; Petroleum hydrocarbons 97.68%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 3640-TA. Stearns Chemical Corporation, 4200 Sycamore Ave., Madison, Wisconsin 53704. *Sanitertent Mark III Detergent Sanitizer*. Active Ingredients: Sodium Carbonate 22.0%; Trisodium Phosphate 55.8%; Sodium Hypochlorite 3.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 6516-RA. Steri-Tized Inc., White Street, Buchanan, New York 10511. *Steri-Tized 504*. Active Ingredients: Didecyl dimethyl ammonium chloride 50%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 6516-RT. Steri-Tized Inc., White Street, Buchanan, New York 10511. *Steri-Tized 300 Laundry Bacteriostat-Sanitizer*. Active Ingredients: Octyl decyl dimethyl ammonium chloride 25.0%; Didecyl dimethyl ammonium chloride 12.5%; Didecyl dimethyl ammonium chloride 12.5%; Isopropyl alcohol 20.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 1148-EU. Leffingwell Chemical Company, Division Thompson-Hayward Chemical Co., 111 S. Berry St., Brea, California 92621. *Leffingwell Uni-Par*. Active Ingredients: Petroleum Oil 98.0%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 148-RRTR. Thompson-Hayward Chemical Company, 5200 Speaker Road, Kansas City, Kansas 66106. *T-H Pyrtox WE-100 Emulsifiable Concentrate, A Food Industry Insect Spray*. Active Ingredients: Pyrethrins 1.0%; Piperonyl Butoxide, Technical 10.0%; Petroleum Distillate 75.15%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 34285-R. Union Chemical & Oil Company, 3211 South Wood Street, Chicago, Illinois 60608. *Peercol Algaecide Liquid*. Active Ingredients: Poly[oxyethylene (dimethyliminio) ethylene (dimethyliminio) ethylene dichloride] 15.0%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 400-RRG. Uniroyal Chemical—Division of Uniroyal, Inc., Amity Road, Bethany, Connecticut 06525. *Vitavax-17 Flowable Fungicide*. Active Ingredients: Carboxin (5,6-dihydro-2-methyl-1,4-oxathin-3-carboxanilide) 17.1%. Method of Support: Application proceeds under 2(b) of interim policy.

EPA File Symbol 876-EGU. Velsicol Chemical Corporation, 341 East Ohio Street, Chicago, Illinois 60611. *Velsicol Barricade*. Active Ingredients: O,O-Dimethyl O-p-nitrophenyl phosphonothioate 31.6%; O-Ethyl O-p-nitrophenyl phenylphosphonothioate 31.6%; Aromatic petroleum solvent 27.4%. Method of Support: Application proceeds under 2(c) of interim policy.

EPA File Symbol 876-ERL. Velsicol Chemical Corporation, 341 East Ohio Street, Chicago, Illinois 60611. *Velsicol 2,4-D Amine Herbicide*. Active Ingredients: Dimethylamine Salt of 2,4-Dichlorophenoxy-acetic Acid 49.5%. Method of Support: Application proceeds under 2(c) of interim policy.

Dated: June 11, 1974.

JOHN B. RITCH, Jr.,
Director, Registration Division.

[FR Doc.74-13841 Filed 6-21-74;8:45 am]

CHEVRON CHEMICAL CO.

Notice of Establishment of Temporary Tolerance

Chevron Chemical Co., 940 Hensley Street, Richmond, CA 94804, submitted a petition (PP 4G1438) requesting establishment of a temporary tolerance of 2,000 parts per million for residues of formaldehyde in or on corn grain intended for use as animal feed only resulting from postharvest application of the fungicide which is a mixture of methylene bispropionate and oxy(bis-methylene) bispropionate.

It has been determined that such a temporary tolerance will protect the public health. It is therefore established on condition that the fungicide be used in accordance with the temporary permit being issued concurrently and which provides for distribution under the Chevron Chemical Co. name.

This temporary tolerance expires June 19, 1975. Residues remaining in or on the above raw agricultural commodity after expiration of this tolerance will not be considered actionable if the pesticide is legally applied during the term, and in accordance with provisions of the temporary permit/tolerance.

This action is taken pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (sec. 408(j), 68 Stat. 516; 21 U.S.C. 346a(j)), the authority transferred to the Administrator of the Environmental Protection Agency (35 FR 15623), and the authority delegated by the Administrator to the Deputy Assistant Administrator for Pesticide Programs (39 FR 18805).

Dated: June 19, 1974.

HENRY J. KOPF,
Deputy Assistant Administrator
for Pesticide Programs.

[FR Doc.74-14437 Filed 6-21-74;8:45 am]

MONSANTO CO.

Notice of Establishment of Temporary Tolerances

Monsanto Co., 800 N. Lindbergh Boulevard, St. Louis, MO 63166, submitted a petition (PP 4G1444) requesting establishment of temporary tolerances for combined negligible residues of the herbicide glyphosate (N-phosphonomethyl) glycine and its metabolite aminomethylphosphonic acid in or on corn grain including popcorn, fresh corn including sweet corn (kernels plus cob with husk removed), soybeans, wheat grain, and wheat forage and straw at 0.1 part per million.

It has been determined that these temporary tolerances will protect the public health. They are therefore established on condition that the herbicide be used in accordance with the temporary permit being issued concurrently and which provides for distribution under the Monsanto Co. name.

These temporary tolerances expire June 19, 1975. Residues remaining in or on the above raw agricultural commodities after expiration of these tolerances will not be considered actionable if the pesticide is legally applied during the term and in accordance with provisions of the temporary permit/tolerances.

This action is taken pursuant to provisions of the Federal Food, Drug, and Cosmetic Act (sec. 408(j), 68 Stat. 516; 21 U.S.C. 346a(j)), the authority transferred to the Administrator of the Environmental Protection Agency (35 FR 15623), and the authority delegated by the Administrator to the Deputy Assistant Administrator for Pesticide Programs (39 FR 18805).

Dated: June 19, 1974.

HENRY J. KOPF,
Deputy Assistant Administrator
for Pesticide Programs.

[FR Doc.74-14438 Filed 6-21-74;8:45 am]

PRESIDENT'S AIR QUALITY ADVISORY BOARD

Notice of Meeting

Pursuant to Public Law 92-463, notice is hereby given that a meeting of the President's Air Quality Advisory Board will be held at Seattle, Washington, beginning at 9 a.m. on July 16, 1974, and ending at noon on July 19, 1974.

The primary purpose of this meeting will be to discuss new perspectives on public attitudes and land use as they relate to air quality. One day will be spent as observers to the Spokane Expo 74 with its Environmental Theme and Symposium II, "International Accomplishments to Date: Reason for Hope."

The meeting will be open to the public. Any member of the public wishing to attend or submit a written statement should contact the Executive Secretary, Mr. Robert Perman, U.S. Environmental Protection Agency, Washington, D.C. 20460. The telephone number is (202) 755-0450.

ROGER STRELOW,
Acting Assistant Administrator
for Air and Waste Management.

JUNE 19, 1974.

[FR Doc.74-14439 Filed 6-21-74;8:45 am]

PRESIDENT'S WATER POLLUTION CONTROL ADVISORY BOARD

Notice of Meeting

Pursuant to Public Law 92-463, notice is hereby given that a meeting of the President's Water Pollution Control Advisory Board will be held at Seattle, Washington, beginning at 9 a.m. on July 16, 1974, in the Hilton Hotel, and ending at noon on July 19, 1974.

The purpose of this meeting will be to develop new perspectives on a broad range of issues that may affect water quality planning and pollution control efforts across the nation.

The meeting will be open to the public. Any member of the public wishing to attend or submit a paper should contact the Executive Secretary, Mr. Robert F. Powell, U.S. Environmental Protection Agency, Washington, D.C. 20460. The telephone number is (202) 755-0320.

JAMES L. AGEE,
Acting Assistant Administrator
for Water and Hazardous Materials.

JUNE 20, 1974.

[FR Doc.74-14531 Filed 6-21-74;8:45 am]

FEDERAL MARITIME COMMISSION

CONTINENTAL NORTH ATLANTIC WESTBOUND FREIGHT CONFERENCE

Modification of Agreement

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1100 L Street, N.W., Room 10126; or may inspect the agreement at the field offices located at New York, N.Y., New Orleans, Louisiana, San Francisco, California, and San Juan, Puerto Rico. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, on or before July 15, 1974. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the Commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

Notice of agreement filed by:

Howard A. Levy, Esq.
Suite 631
17 Battery Place
New York, New York 10004

Agreement No. 8210-26 among the members of the above-named Conference deletes Zeebrugge, Belgium from the schedule of Benelux ports between which cargo may be transferred at carrier's expense.

By Order of the Federal Maritime Commission.

Dated: June 19, 1974.

FRANCIS E. HURNEY,
Secretary.

[FR Doc.74-14402 Filed 6-21-74;8:45 am]

FARRELL LINES INC., ET AL.

Notice of Agreement Filed

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1100 L Street, N.W., Room 10126; or may inspect the agreement at the field offices located at New York, N.Y., New Orleans, Louisiana, San Francisco, California and Old San Juan, Puerto Rico. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, on or before July 15, 1974. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

FARRELL LINES INCORPORATED
AND

JOHN T. RENNIE & SONS (PTY) LTD.
AS MANAGERS

GREEN R LINE—GROUP OF COASTERS

Notice of agreement filed by:

Hans Unterwiener, Manager
Freight Documentation and Inward Freight
Farrell Lines Incorporated
One Whitehall Street
New York, New York 10004

Agreement No. 10134 is a transshipment agreement between the two carriers listed above pertaining to the through movement of all cargo between Mocambique ports and U.S. Atlantic ports with transshipment at Durban, South Africa.

By Order of the Federal Maritime Commission.

Dated: June 19, 1974.

FRANCIS C. HURNEY,
Secretary.

[FR Doc.74-14403 Filed 6-21-74;8:45 am]

NORTH ATLANTIC BALTIC FREIGHT CONFERENCE

Notice of Agreement Filed

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1100 L Street, N.W., Room 10126; or may inspect the agreement at the field offices located at New York, N.Y., New Orleans, Louisiana, San Francisco, California, and San Juan, Puerto Rico. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, on or before July 15, 1974. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

Notice of agreement filed by:

Howard A. Levy, Esq.
Suite 631
17 Battery Place
New York, New York 10004

Agreement No. 7670-11, among the members of the North Atlantic Baltic Freight Conference, is an application for unlimited approval of the Conference's inland authority.

By Order of the Federal Maritime Commission.

Dated: June 19, 1974.

FRANCIS C. HURNEY,
Secretary.

[FR Doc.74-14401 Filed 6-21-74; 8 am]

FEDERAL POWER COMMISSION

[Dockets Nos. RI74-254, RI73-308,
and RI74-165]

MOBIL OIL CORP., AND SHELL OIL CO.

Order Providing for Hearing on and Suspension of Proposed Changes in Rates, and Allowing Rate Changes To Become Effective Subject To Refund¹

June 14, 1974.

Respondents have filed proposed changes in rates and charges for jurisdictional sales of natural gas, as set forth in Appendix A hereof.

The proposed changed rates and charges may be unjust, unreasonable,

¹ Does not consolidate for hearing or dispose of the several matters herein.

APPENDIX A

Docket No.	Respondent	Rate schedule No.	Supplement No.	Purchaser and producing area	Amount of annual increase	Date filing tendered	Effective date unless suspended	Date suspended until—	Cents per Mcf*		Rate in effect subject to refund in docket Nos.
									Rate in effect	Proposed increased rate	
RI74-254..	Mobil Oil Corp.....	500	1	Northern Natural Gas Co. (Gomez (Ellenburger) Field, Pecos County, Tex.) (Permian Basin).	\$41,610	5-15-74		11-15-74	35.0	145.0	
RI73-308..	Shell Oil Co.....	253	1 to 12	El Paso Natural Gas Co. (Los Mendanzas (James Ranch) Field, Eddy County, N. Mex.) (Permian Basin).	4,989	5-17-74		* 7- 2-74	28.0	28.3063	RI73-308.
RI74-165..	do.....		1 to 14	do.....	5,167	5-17-74		* 8-18-74	* 29.0	29.3172	RI74-165.

* Unless otherwise stated, the pressure base is 14.65 lb/in²g.

¹ Subject to Btu adjustment.

² Not used.

³ Suspended in Docket No. RI74-165.

⁴ Date last filed rate becomes effective subject to refund.

* Suspended subject to the existing suspension proceeding in Docket No. RI73-308 to be effective subject to refund as of July 2, 1974.

* Suspended subject to the existing suspension proceeding in Docket No. RI74-165 to be effective subject to refund as of Aug. 18, 1974.

The proposed rate increase of Mobil is suspended for five months, since it exceeds the applicable area ceiling set forth in Opinion No. 662. Good cause has not been shown for granting Mobil's request for a one day suspension.

The proposed rate increases of Shell reflect the increase in the New Mexico Severance Tax from 2.5 per cent to 3.75 per cent which becomes effective July 1, 1974. The proposed rate increases are suspended until July 2, 1974, and August 18, 1974, respectively, in the existing suspension proceedings involving Shell's underlying rates, one of which is in effect subject to refund, while the other is under suspension.

[FR Doc.74-14248 Filed 6-21-74; 8:45 am]

BARBER OIL EXPLORATION, INC., ET AL.

[Docket Nos. CI74-199, CI74-209, and CI74-277]

Order Remanding Proceeding and Setting Date for Hearing

JUNE 17, 1974.

This case is before us on exceptions filed by Barber Oil Exploration, Inc. (Barber), Florida Gas Exploration Company (Florida Gas), Florida Gas Transmission Company (Transmission), Mapco, Inc. (Mapco), and brief opposing exceptions filed by Staff to an initial decision issued April 11, 1974, by Ad-

ministrative Law Judge Israel Convisser. These proceedings involve three applications filed by Barber, Florida Gas and Mapco under the optional procedure established in Order No. 455 to sell natural gas to Transmission from leasehold acreage in Montegut Field, Terrebonne Parish, Louisiana. The contract provides for an initial sales price of 45.0 cents per Mcf at 14.65 psia with annual rate escalations of one cent per Mcf and full reimbursement of new or increased taxes. It is subject to cancellation if certificate authorization is not obtained by September 21, 1974. For the

unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is in the public interest and consistent with the Natural Gas Act that the Commission enter upon hearings regarding the lawfulness of the proposed changes, and that the supplements herein be suspended and their use be deferred as ordered below.

The Commission orders: (A) Under the Natural Gas Act, particularly sections 4 and 15, the regulations pertaining thereto [18 CFR, Chapter I], and the Commission's rules of practice and procedure, public hearings shall be held concerning the lawfulness of the proposed changes.

(B) Pending hearings and decisions thereon, the rate supplements herein are suspended and their use deferred until date shown in the "Date Suspended Until" column. Each of these supplements shall become effective, subject to refund, as of the expiration of the suspension period without any further action by the Respondent or by the Commission. Each Respondent shall comply with the refunding procedure required by the Natural Gas Act and § 154.102 of the regulations thereunder.

(C) Unless otherwise ordered by the Commission, neither the suspended supplements, nor the rate schedules sought to be altered, shall be changed until disposition of these proceedings or expiration of the suspension period, whichever is earlier.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

reasons stated herein, we remand the case to the Judge.

The Administrative Law Judge denied the applicants' request for certification on the basis of their failure to submit evidence showing special circumstances. Actual project costs were not submitted into evidence in this proceeding. We have recently remanded two proceedings¹ under the optional procedure for further hearings to give all an opportunity to present evidence on this matter. In cases we have set for hearing, we specifically directed the parties to present such evidence.²

Actual project costs are relevant to the issues involved here. Accordingly, without in any way passing upon the issues now before us, we shall remand the case for further hearings to give all parties an opportunity to present evidence on this matter so that the record will be complete. The Administrative Law Judge should render his initial decision upon the whole record, as originally made and as supplemented as a result of this remand.

In Order No. 455, Statement of Policy Relating To Optional Procedure For Certifying New Producer Sales of Natural Gas, 48 FPC 218 (18 CFR 2.75) issued August 3, 1972, we stated (*id.* 229):

We believe that each contract filed under the alternative procedure must be considered on the merits of the terms and provisions within each contract. There certainly must be some evidentiary basis proffered by the seller-applicant upon which we can judge whether the contract rate is just and reasonable. We will, absent a showing of special circumstance, accept as conclusive the cost findings embodied in our area rate decisions, as such may be supplemented from time to time by appropriate Commission order.

Of course, the "evidentiary basis proffered by the seller-applicant" must begin with cost evidence. Cost evidence is the keystone of the concept of "just and reasonable", and about which the evidence to be proffered must be constructed. "City of Detroit v. F.P.C.", 230 F.2d 810, 818 (1955), cert. denied, 352 U.S. 829 (1956). It follows then, that the seller-applicant should introduce relevant evidence of the cost of the particular project for which certification is sought. Such evidence shall be deemed to constitute the "special circumstance" to be considered together with all other material evidence which would support a finding of a just and reasonable rate in excess of the applicable area rate.

For the applicant to carry its burden of proof as to the justness and reasonableness of the proposed rate, it must establish, by credible and relevant evidence, (1) the direct and indirect costs, including the cost of capital funds to be

invested, reasonably anticipated in connection with the drilling program on the leases dedicated herein; (2) the reserves reasonably anticipated as recoverable; and (3) the deliverability reasonably anticipated.

The Commission finds:

It is necessary and in the public interest that the above-docketed proceeding be remanded and set for further hearings.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4, 5, 7, 14 and 16 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I), Docket Nos. CI74-199, CI74-209, and CI74-277 are remanded for the purpose of further hearings and disposition.

(B) A public hearing on the issues herein shall be held commencing on July 29, 1974, 10 a.m. e.d.t., in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426.

(C) Applicants and any intervenor supporting the application shall file their direct testimony and evidence on or before July 1, 1974. All testimony and evidence shall be served upon the Presiding Judge, the Commission Staff, and all parties to this proceeding.

(D) The Commission Staff, and any intervenor opposing the applications, shall file their direct testimony and evidence on or before July 8, 1974. All testimony and evidence shall be served upon the Presiding Judge, and all other parties to this proceeding.

(E) All rebuttal testimony and evidence shall be served on or before July 15, 1974. All parties submitting rebuttal testimony and evidence shall serve such testimony upon the Presiding Judge, the Commission Staff, and all other parties to the proceeding.

By the Commission.³

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14323 Filed 6-21-74; 8:45 am]

[Docket Nos. CI74-495 and CI74-629]

CNG PRODUCING CO.

Order Consolidating Proceedings

JUNE 17, 1974.

By order issued May 15, 1974, the Commission set for hearing an application filed by CNG Producing Company (CNG) pursuant to § 2.75¹ of the Commission's General Policy Statements. The gas is to be sold from onshore Louisiana to Consolidated Gas Supply Corporation (Consolidated), which is an affiliate of CNG. An intervention was granted to the American Public Gas Association (APGA) and a notice of intervention and request for hearing was received from the

Public Service Commission of the State of New York (PSCNY). The hearing was set to commence on June 13, 1974.

On April 30, 1974, CNG filed in Docket No. CI74-629 another application pursuant to § 2.75 for sales to Consolidated from East Cameron Block 118, offshore Louisiana, at an initial rate of 45.0 cents per Mcf, with 1 cent per Mcf annual escalation, Btu adjustment, and tax reimbursement. A notice of application in Docket No. CI74-629 was issued on May 28, 1974, and the period for protest or petition to intervene expires on June 17, 1974.

By motion filed May 24, 1974, CNG moved to consolidate Docket Nos. CI74-495 and CI74-629 for hearing and disposition and to change the procedural dates set forth in the May 15, 1974 order. No party in Docket No. CI74-495 expressed opposition to this proposal.² In support of consolidation, movant noted that both applications involved the same seller and purchaser, the same initial rate and escalations, and similar contract provisions, and that consolidation will save duplication of effort by all parties and promote sound administrative practice.

Good cause exists for the consolidation of Docket Nos. CI74-495 and CI74-629 for purposes of hearing and disposition. APGA and PSCNY, who are parties in Docket No. CI74-495, are also deemed to be parties to Docket No. CI74-629 without further action. All other provisions and findings, including the discussion of the evidentiary standard under § 2.75 contained in the May 15, 1974 order, are incorporated herein and made applicable to this consolidated proceeding.

The Commission finds:

It is necessary and in the public interest that Docket No. CI74-629 be consolidated for hearing and disposition with the application filed in Docket No. CI74-495.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4, 5, 7, 14 and 16 thereof, the Commission's rules of practice and procedure, and the Regulations under the Natural Gas Act (18 CFR Ch. I), Docket Nos. CI74-495 and CI74-629 are consolidated for hearing and disposition.

(B) A public hearing on the issues presented by the application herein shall be held commencing on September 4, 1974, 10 a.m. e.d.t. in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426.

(C) A Presiding Law Judge to be designated by the Chief Law Judge for that purpose (See Delegation of Authority, 18 CFR 3.5(d)), shall preside at the hearing in this proceeding pursuant to the Commission's rules of practice and procedure.

(D) CNG and any intervenor supporting the applications shall file their direct

¹ Rodman Corporation, Docket No. CI73-694, issued May 15, 1974, and Pennzoil Company, et al., Docket No. CI74-264, et al., issued.

² CNG Producing Company, Docket No. CI74-495, Texas Eastern Exploration Company, Docket No. CI74-530, and N.C. Perryman and J. A. Wallender, Docket No. CI74-362.

³ Commissioners Brooke and Moody, dissenting, filed as part of the original document.

¹ 18 CFR 2.75.

² The procedural dates in Docket No. CI74-495 were changed by notice issued May 29, 1974.

testimony and evidence on or before June 25, 1974. All testimony and evidence shall be served upon the Presiding Judge, the Commission Staff, and all parties to these proceedings.

(E) The Commission Staff and any intervenor opposing the applications shall file their direct testimony and evidence on or before July 25, 1974. All testimony and evidence shall be served upon the Presiding Judge, and all other parties to these proceedings.

(F) All rebuttal testimony and evidence shall be served on or before August 13, 1974. All parties submitting rebuttal testimony and evidence shall serve such testimony upon the Presiding Judge, the Commission Staff, and all other parties to these proceedings.

(G) The contract between CNG and Consolidated dated April 24, 1974 is accepted for filing as of the date of initial delivery and designated as CNG Producing Company F.P.C. Gas Rate Schedule No. 2.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14318 Filed 6-21-74; 8:45 am]

[Docket Nos. CP71-290 and CP73-283]

CONSOLIDATED SYSTEM LNG CO.

Order Scheduling Formal Hearing

JUNE 17, 1974.

By Opinion No. 622-A, issued October 5, 1972, we reopened the record of the proceedings in Docket No. CP71-290 for the receipt of additional evidence relating to the route of the pipeline Consolidated System LNG Company (Consolidated LNG) proposes in that docket to build between Loudoun, Virginia and Leidy, Pennsylvania.

Docket No. CP73-283 involves, inter alia, a proposal by Consolidated LNG to build a compressor station along the Loudoun-Leidy pipeline. By order issued December 28, 1973 we consolidated the reopened proceedings in Docket No. CP71-290 with that portion of Docket No. CP73-283 that relates to the location of the proposed compressor. On February 26, 1974, the Commission Staff issued and circulated its preliminary Draft Environmental Impact Statement (DEIS) relating to the proposed pipeline route and compressor site. Comments on the DEIS are due by June 14, 1974.

In anticipation of the issuance of Staff's final DEIS, and to facilitate the expeditious disposition of the above-named dockets, we shall here schedule a formal hearing to address the outstanding environmental issues raised therein. The Staff shall be prepared at such hearing to offer its final DEIS into evidence, and to present such witnesses as may be appropriate. The Presiding Administrative Law Judge shall set dates for the filing of answering and rebuttal testimony, if any, after the direct presentation of Staff, the Applicant, and any intervenors supporting the Applicant.

The Commission finds:

(1) It is necessary and appropriate in the public interest that formal hearing be scheduled in the above-docketed proceedings.

The Commission orders:

(A) Pursuant to section 7 of the Natural Gas Act, the Regulations under the Natural Gas Act, and the Commission's Rules of Practice and Procedure, a formal hearing shall be convened in the above-named proceedings in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C., on July 15, 1974 concerning the environmental issues remaining in the proceedings. The Chief Administrative Law Judge will designate an appropriate officer of the Commission to preside at the formal hearing of these matters, pursuant to the Commission's rules of practice and procedure.

(B) The Commission Staff's final environmental impact statement and any testimony in support thereof, and the direct case of the Applicant and any intervenors in support of the Applicant, shall be filed and served on all parties on or before July 1, 1974. The Presiding Administrative Law Judge shall fix dates for the filing and cross-examination of answering testimony if any, following the direct presentation of Staff, Applicant, and supporting intervenors.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14321 Filed 6-21-74; 8:45 am]

[Docket No. RP74-57]

EL PASO NATURAL GAS CO.

Notice of Tariff Filing

JUNE 17, 1974.

Take notice that on June 10, 1974, El Paso Natural Gas Company ("El Paso") filed, pursuant to Part 154 of the Commission's Regulations Under the Natural Gas Act, certain revised substitute and alternate tariff sheets to its FPC Gas Tariff, providing proposed adjustments to its rates contained on the tariff sheets submitted in the notice of change in rates filed at Docket No. RP74-57 on January 10, 1974, and currently under suspension until July 10, 1974.

El Paso states that the rates set forth on the tendered tariff sheets differ from the rates which were suspended in Docket No. RP74-57 in that: (1) The suspended rates have been adjusted to include the net increase in rates of 2.71¢ per Mcf authorized in El Paso's notice of change in rates filed February 14, 1974, at Docket Nos. RP72-155 and RP73-104, pursuant to the purchased gas cost adjustment provisions ("PGAC") applicable to El Paso's said tariff and placed into effect on April 2, 1974; (2) the suspended rates in Docket No. RP74-57 applicable to El Paso's Rate Schedules G and G-X have been restructured in accordance with the principles enunciated by the Commission in "United Gas Pipeline Company", Opinion No. 671 and (3) con-

tingency is provided so that the suspended rates can be appropriately adjusted if, by July 10, 1974, certain uncertificated facilities, the cost of which have been included in the determination of the suspended rates, have not been certificated.

In the event that the said adjustments, described above, in suspended rates contained on the tendered tariff sheets described in the filing are not permitted to become effective on July 10, 1974, El Paso has also submitted alternate tariff sheets containing the suspended rates as proposed in El Paso's notice of change filed at Docket No. RP74-57 and suspended until July 10, 1974, adjusted only to add the 2.71¢ per Mcf PGAC adjustment described above.

The filing states that El Paso has concurrently filed its motion to place into effect on July 10, 1974, the end of the suspension period in Docket No. RP74-57, increased rates in Docket No. RP74-57 and that such motion is consistent with the request made by the instant tender.

El Paso has requested that the Commission grant such waiver of its Regulations Under the Natural Gas Act as may be necessary in order to effectuate the instant filing.

Any person desiring to be heard or to protest said filing should file a petition to intervene or protest with the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, in accordance with §§ 1.8 and 1.10 of the Commission's rules of practice and procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before June 28, 1974. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14317 Filed 6-21-74; 8:45 am]

[Docket No. RI74-194]

KWB OIL PROPERTY MANAGEMENT, INC.

Order Fixing Date for Prehearing Conference on Petition for Special Relief

JUNE 17, 1974.

On March 22, 1974, KWB Oil Property Management, Inc. (KWB) filed a petition for special relief pursuant to section 4 of the Natural Gas Act¹ and § 2.76 of the Commission's general Policy and Interpretations (hereinafter "§ 2.76").²

¹ 15 U.S.C. 717, et seq.

² Order Promulgating Policy With Respect To Sales Where Reduced Pressures, Need For Reconditioning, Deeper Drilling, Or Other Factors Make Further Production Uneconomical At Existing Prices, Order No. 481, Docket No. R-458, 49 FPC 992 (Issued April 12, 1973), 18 CFR 2.76.

KWB seeks to increase its rate from the 15.0 cents per Mcf which it is presently collecting from the purchaser, Cities Service Gas Company (Cities) for sales from two wells located in the North Hardtner Field, Barber County, Kansas, to the requested rate of 40.0 cents per Mcf.³ The proposed rate is contractually authorized by a recent amendment to a 1965 KWB—Cities contract. The amendment provides for the 40.0 cents per Mcf rate to finance installation and operation of certain water pumping equipment intended to prolong the productive life of the two wells.

Notice of KWB's petition was issued April 8, 1974 and published in the FEDERAL REGISTER April 12, 1974, 39 FR 13316. Cities Service filed a petition to intervene in support of the petition April 29, 1974.

In support of its petition, KWB states that if the relief request is granted, it will be able to continue production from its V. L. Cook 1-A Well for five years and the McCracken No. 1 Well for six years. KWB avers that an additional 237,300 Mcf of gas will be recovered if the remedial work, including water pumping equipment, is accomplished.

An examination of the petition and the data in support thereof raises a question of whether there is sufficient basis for us to find that the proposed rate is just and reasonable. Therefore, we deem it necessary that a hearing be held in this matter to determine what relief, if any, should be granted under § 2.76.

Upon consideration of the record, when completed, the Administrative Law Judge should enter findings as to the just and reasonable rate level to be applied to KWB's sales to Cities Service from the subject wells, if he determines that the existing area rate does not permit development of the available reserves. We so require because we do not perceive that KWB's petition should be viewed as proposing a choice between a 40.0 cents per Mcf rate and the area rate; rather, we view the petition as one seeking the determination of that rate, up to and including the contractual maximum, which is just and reasonable under the circumstances.

The Commission finds:

It is necessary and in the public interest that the above-docketed proceeding be set for hearing.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, a public hearing shall be held concerning the issues presented herein.

(B) On or before July 1, 1974, KWB shall file its direct testimony and evidence in support of its petition. All testimony and evidence filed herein shall be served upon the Presiding Administrative Law Judge, Commission Staff, and all other parties to the proceeding.

(C) On July 15, 1974, a prehearing conference shall be held in accordance with § 1.18 of the rules of practice and

procedure to resolve the issues herein in a hearing room of the Federal Power Commission, Washington, D.C. at 10 a.m.

(D) A Presiding Administrative Law Judge to be designated by the Chief Administrative Law Judge for that purpose shall convene the prehearing conference in the proceeding.

(E) This Administrative Law Judge may in his discretion grant recesses from time to time if he deems a settlement or submission of the issues upon stipulated facts to be possible. If no stipulation or settlement can be reached by the parties hereto after reasonable time and provision has been made for the same, the Presiding Administrative Law Judge shall establish the time for the commencement of hearing and shall prescribe relevant procedural matters not herein provided.

By the Commission.⁴

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14324 Filed 6-21-74; 8:45 am]

PENNZOIL CO.

[Docket No. CI74-253]

Order Remanding Proceeding and Setting Date for Hearing

JUNE 17, 1974.

This case is before us on exceptions filed by Pennzoil Company (Pennzoil) and Transwestern Pipeline Company (Transwestern) and brief opposing exceptions filed by Staff to an initial decision issued April 17, 1974, by Administrative Law Judge Samuel Kanell. This proceeding involves an application filed by Pennzoil under the optional procedure established in Order No. 455 to sell natural gas to Transwestern from the South Carlsbad area, Eddy County, New Mexico. By amendment to the 1969 contract, the parties agreed that in consideration for Pennzoil undertaking additional drilling, Transwestern would pay Pennzoil an initial price of 53.0 cents per Mcf at 14.65 psia, subject to Btu adjustment upward from 1050 and downward from 1,000, with an annual escalation charge of one cent per Mcf and tax reimbursement of 87.5 percent of any additional taxes. For the reasons stated herein, we remand the case to the Judge.

The Administrative Law Judge concluded that a departure from the cost findings in the Permian II proceeding, Docket No. AR70-1¹ was justified. He based his finding of special circumstances on the evidence establishing that the current national cost of finding and producing gas exceeded the area rate prescribed by the Commission. He denied the application without prejudice to Pennzoil filing amendment providing for

a rate of 47.85 cents per Mcf. In calculating the current cost of producing non-associated gas pursuant to the Staff methodology, the Judge employed the Applicant's productivity factor of 450 Mcf/ft., citing the recent trend of declining productivity.

Actual project costs were not submitted into evidence in this proceeding. We have recently remanded two proceedings² under the optional procedure for further hearings to give all an opportunity to present evidence on this matter. In cases we have set for hearing, we specifically directed the parties to present such evidence.³

Actual project costs are relevant to the issues involved here. Accordingly, without in any way passing upon the issues now before us, we shall remand the case for further hearings to give all parties an opportunity to present evidence on this matter so that the record will be complete. The Administrative Law Judge should render his initial decision upon the whole record, as originally made and as supplemented as a result of this remand.

In Order No. 455, Statement of Policy Relating To Optional Procedure For Certifying New Producer Sales Of Natural Gas, 48 FPC 218 (18 CFR 2.75) issued August 3, 1972, we stated (id. 229):

We believe that each contract filed under the alternative procedure must be considered on the merits of the terms and provisions within each contract. There certainly must be some evidentiary basis proffered by the seller-applicant upon which we can judge whether the contract rate is just and reasonable. We will, absent a showing of special circumstance, accept as conclusive the cost findings embodied in our area rate decisions, as such may be supplemented from time to time by appropriate Commission order.

Of course, the "evidentiary basis proffered by the seller-applicant" must begin with cost evidence. Cost evidence is the keystone of the concept of "just and reasonable", and about which the evidence to be proffered must be constructed, "City of Detroit v. F.P.C.", 230 F. 2d 810, 818 (1955), cert. denied, 352 U.S. 829 (1956). It follows then, that the seller-applicant should introduce relevant evidence of the cost of the particular project for which certification is sought. Such evidence shall be deemed to constitute the "special circumstance" to be considered together with all other material evidence which would support a finding of a just and reasonable rate in excess of the applicable area rate.

For the applicant to carry its burden of proof as to the justness and reasonableness of the proposed rate, it must establish, by credible and relevant evidence, (1) the direct and indirect costs, including the cost of capital funds to be

¹ Rodman Corporation, Docket No. CI73-694, issued May 15, 1974, and Pennzoil Company, et al., Docket No. CI74-264, et al., issued.

² CNG Producing Company, Docket No. CI74-495, Texas Eastern Exploration Company, Docket No. CI74-530, and N. C. Perryman and J. A. Wallender, Docket No. CI74-362.

³ The applicable Hugoton-Anadarko area rate is 18.5 cents per Mcf, as determined by Opinion No. 586.

⁴ Commissioner Moody's concurring statement filed as part of the original document. Appendix A is filed as part of the original document.

¹ Opinion No. 662, issued August 7, 1973.

invested, reasonably anticipated in connection with the drilling program on the leases dedicated herein; (2) the reserves reasonably anticipated as recoverable; and (3) the deliverability reasonably anticipated.

The Commission finds:

It is necessary and in the public interest that the above-docketed proceeding be remanded and set for further hearings.

The Commission orders:

(A) Pursuant to the authority of the Natural Gas Act, particularly sections 4, 5, 7, 14 and 16 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act (18 CFR Ch. I, Docket No. CI74-253 is remanded for the purpose of further hearings and disposition.

(B) A public hearing on the issues herein shall be held commencing on July 30, 1974, 10 a.m. (e.d.t.) in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426.

(C) Applicant and any intervenor supporting the application shall file their direct testimony and evidence on or before June 28, 1974. All testimony and evidence shall be served upon the Presiding Judge, the Commission Staff, and all parties to this proceeding.

(D) The Commission Staff, and any intervenor opposing the application, shall file their direct testimony and evidence on or before July 12, 1974. All testimony and evidence shall be served upon the Presiding Judge, and all other parties to this proceeding.

(E) All rebuttal testimony and evidence shall be served on or before July 19, 1974. All parties submitting rebuttal testimony and evidence shall serve such testimony upon the Presiding Judge, the Commission Staff, and all other parties to the proceeding.

By the Commission.⁴

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14322 Filed 6-21-74; 8:45 am]

[Docket No. RI74-250]

RAGARS OIL & GAS CO.

Notice of Petition for Special Relief

JUNE 17, 1974

JUNE 17, 1974.

Take notice that on June 12, 1974, Ragars Oil & Gas Company (Petitioner), P.O. Drawer 2030, Alice, Texas 78332, filed a petition for special relief in Docket No. RI74-250, pursuant to Order No. 481. Petitioner seeks an increase to 55 cents per Mcf for the sale of gas to United Gas Pipe Line Company from the Cabeza Creek Area, Goliad, DeWitt and Karnes Counties, Texas. The petition is based upon the reworking of certain wells, and the installation of compressor

facilities. Petitioner estimates the recoverable reserves to be 5,000,000 Mcf or more if compression is added and the wells reworked.

Any person desiring to be heard or to make any protest with reference to said petition should on or before July 3, 1974, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any party wishing to become a party to a proceeding, or to participate as a party in any hearing therein, must file a petition to intervene in accordance with the Commission's rules.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14326 Filed 6-21-74; 8:45 am]

[Docket No. CP74-304]

**SECRETARY OF THE ARMY AND CITIES
SERVICE GAS CO.**

Notice of Application

JUNE 17, 1974.

Take notice that on May 28, 1974, the Secretary of the Army (Applicant), The Pentagon, Room 3E718, Washington, D.C. 20310, filed in Docket No. CP74-304 an application pursuant to section 7(a) of the Natural Gas Act for an order of the Commission directing Cities Service Gas Company (Respondent) to sell and deliver to Applicant at its Ft. Leavenworth facilities natural gas for resale and distribution, all as more fully set forth in the appendices hereto and in the application which is on file with the Commission and open to public inspection.

Applicant states that he is presently engaged in the distribution, sale and resale of natural gas within the boundaries of the military reservation known as Ft. Leavenworth, Kansas. Applicant requests that the Commission direct Respondent to sell and deliver to Applicant at an interconnection of Applicant's distribution system at Ft. Leavenworth with the Respondent's main transmission pipeline, which transverses Ft. Leavenworth, the following estimated volumes of natural gas (see Appendix 1 filed as part of the original document):

Fiscal year	Maximum day (thousand cubic feet)	Annual (thousand cubic feet)
1974.....	6,187	121,131
1975.....	6,200	117,799
1976.....	6,200	113,873

Applicant seeks gas service at the applicable Federal Power Commission jurisdictional rate for firm and interruptible municipal service as set forth in Respondent's FPC Gas Tariff, Rate Schedules F2 and C2, respectively.

Applicant states that Ft. Leavenworth is presently receiving natural gas from Respondent pursuant to a certificate issued in Docket No. G-298 and that Applicant is solely dependent upon Respondent for Ft. Leavenworth's entire gas supply. Applicant states further that it is currently providing natural gas and all other utility service to Army components at Ft. Leavenworth, Kansas, and that it also resells gas to customers such as defense family housing and the local Leavenworth school district (see Appendix 2 filed as part of the original document).

Applicant states that the pipeline and transmission facilities of Respondent provide the only feasible jurisdictional source of natural gas supply for Applicant. Applicant believes that the Respondent has sufficient capacity and supply available in its system to enable it to meet Applicant's natural gas requirements. Applicant believes, further, that the sale and delivery of such volumes of gas to Applicant will neither impair the ability of Respondent to render adequate service to other customers on its system nor subject it to any undue burden. Applicant maintains that the extension of gas service to Ft. Leavenworth as requested in the instant application would be in the national defense interests and the community interest of the residents of Ft. Leavenworth.

Applicant states that no extensions or improvement of Applicant's facilities is required to enable Applicant to engage in the local distribution of natural gas.

Any person desiring to be heard or to make any protest with reference to said application should on or before July 8, 1974, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10) and the regulations under the Natural Gas Act (18 CFR 156.9). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's rules.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14328 Filed 6-21-74; 8:45 am]

[Docket No. E-3818]

UNION ELECTRIC CO.

Notice of Letter Agreement

JUNE 17, 1974.

Take notice that on May 28, 1974, Union Electric Company filed a letter agreement, dated May 13, 1974, with the Federal Power Commission between Missouri Utilities Company (MU) and Applicant. Said Agreement establishes additional interconnection points under

⁴ Commissioners Brooke and Moody, dissenting statement filed as part of the original document.

Electric Service Agreement between the parties, dated July 8, 1955, and formalizes a portion of the Letter of Intent on file with the Commission as Supplement No. 5 to Rate Schedule FPC No. 85.

The instant Agreement provides that Applicant will construct a new substation to be located at a point where Applicant's existing 345 kv Shawnee-Lutesville line intersects with MU's existing 115 kv line which extends from Viaduct Substation to Miner Substation. MU has agreed to reinsulate to 161 kv that portion of its Viaduct-Miner line extending between Miner and the new substation and will disconnect such line between the new substation and Viaduct. Furthermore, MU will also construct a 161 kv line from Applicant's new substation to a tap on MU's existing 161 kv Cape-Hoddard line. In addition, by June 1, 1976, MU has agreed to reinsulate for 161 kv operation that portion of its Viaduct-Miner line which extends from the new substation to MU's Viaduct Substation.

Any person desiring to be heard or to make any protest with reference to said application should on or before June 24, 1974 file with the Federal Power Commission, Washington, D.C. 20426, petitions to intervene or protests in accordance with the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's rules. The application is on file with the Commission and available for public inspection.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14319 Filed 6-21-74;8:45 am]

[Docket Nos. RP71-29, RP71-120, and
RP74-37-11]

**UNITED GAS PIPE LINE CO. AND
MISSISSIPPI CHEMICAL CORP.**

Order Setting Matter for Hearing, Consolidating Procedures, Granting Extraordinary Relief Pendente Lite, Prescribing Procedures, and Granting Intervention

JUNE 17, 1974.

Mississippi Chemical Corporation (MCC) filed on May 9, 1974, in Docket No. RP74-37-11, a petition for permanent and interim extraordinary relief from the curtailment provisions of its sole supplier of natural gas, United Gas Pipe Line Company (United). MCC seeks an order directing United to deliver to MCC at its Pascagoula, Mississippi, fertilizer manufacturing plant 21,906 Mcf of natural gas per day. MCC states that it requires these gas volumes on a permanent basis in order to be able to continue its fertilizer manufacturing operations by the use of natural gas as a

feedstock, for which no other raw material may be substituted, and as a process fuel, for which there is no alternate fuel. MCC states that in order to forestall irreparable injury to MCC its farmer-owners, and the national food supply, it requests that interim relief be granted during the pendency of the above petition.

MCC's contract with United, which is in effect through 1982, provides for the firm delivery of 22,000 Mcf of natural gas a day. MCC's base volume under United's curtailment program is 19,653 Mcf per day during the winter period, and 18,493 for the summer period. MCC indicates that under United's currently effective curtailment program, it is receiving natural gas for its feedstock requirements but claims that its process gas needs are being curtailed in a significant daily amount. It further states that natural gas curtailment translates directly into reduced fertilizer production since no alternate fuel capability is possible.

MCC also claims that the base volumes prescribed by United, which are based on historical deliveries for the 1969-70 winter and 1970 summer periods do not accurately represent MCC's current needs. In this same connection, MCC alleges that the base volumes do not reflect periods of non-operation, such as for scheduled and unexpected plant outages, and do not account for the fact that the 1969-70 period was one of unusually low activity in the chemical fertilizer industry since MCC used less gas and produced less ammonia than in prior years.

MCC avers specifically that it will continue to suffer irreparable injury if its request is not granted since each day's diminution of fertilizer production is lost forever, and MCC does not have the capacity to make up this lost production at either another time or another place. MCC concludes that the injury to its farmer-owners is likewise severe and that the irreparable injury to the nation is also real and equally as certain. In this regard, MCC cites the current national shortage of chemical fertilizers and U.S. Senate Resolution 289 wherein the Senate requested this Commission and other governmental agencies to make natural gas available for the production of chemical fertilizers.

Pursuant to the notice of the instant petition, issued May 20, 1974, petitions to intervene have been timely filed by Texas Gas Transmission Corporation, (Texas Gas) General Motors Corporation (GM), and United. Texas Gas and GM take no position on any aspect of MCC's request. United, who takes no position as to the need for relief at the present time, states that if relief is granted it would object to providing relief in excess of existing base volumes, which volumes United characterizes as "growth". United also believes that any relief should be limited to October 31, 1974, at which time request for further relief would be renewed by MCC.

The Commission finds:

(1) Good cause exists to set for formal hearing the application for extraordinary relief.

(2) Based on the facts presented in the petition, relief up to the base volume allocation should be granted on an interim basis pending hearing, and subject to a payback if later determined to be appropriate.

(3) That part of the petition which relates to an amendment of base volumes, is an appropriate matter for resolution in the remanded curtailment proceedings in Docket Nos. RP71-29 and RP71-120.

(4) Participation of the above-named petitioners for intervention may be in the public interest.

The Commission orders:

(A) The application for extraordinary relief filed in Docket No. RP74-37-11 is hereby set for hearing.

(B) Pursuant to the authority contained in and subject to the authority conferred upon the Federal Power Commission by the Natural Gas Act, including particularly sections 7, 15, and 16, and the Commission's rules and regulations under that Act, a public hearing shall be held commencing July 16, 1974, at 10 a.m. e.d.t. at a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, concerning whether extraordinary relief up to the base volume should be granted on a permanent basis.

(C) Petitioner MCC and all other parties shall file their testimony on or before July 5, 1974.

(D) That part of the MCC petition for extraordinary relief which relates to amendment of base volumes is consolidated with the remanded curtailment proceedings in Docket Nos. RP71-29 and RP71-120.

(E) Interim extraordinary relief up to the base volume allocation is granted subject to the above-stated conditions.

(F) The above-named petitioners are hereby permitted to become interveners in these proceedings subject to the rules and regulations of the Commission; *Provided, however*, That the participation of such interveners shall be limited to matters affecting asserted rights and interests as specifically set forth in the petitions to intervene; and, *Provided, further*, That the admission of such interveners shall not be construed as recognition by the Commission that they might be aggrieved because of any order of the Commission entered in these proceedings.

By the Commission.¹

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14316 Filed 6-21-74;8:45 am]

¹ Commissioner Springer, dissenting statement filed as part of the original document.

[Docket No. E-7160]

UNITED STATES DEPARTMENT OF THE
INTERIOR ET AL.Order Extending Confirmation and
Approval of Rates and Charges

JUNE 17, 1974.

The Secretary of the Interior (Secretary), acting on behalf of Southeastern Power Administration (SEPA) and pursuant to section 5 of the Flood Control Act of 1944 (Act), 58 Stat. 887,890, on March 11, 1974 filed a request in Docket No. E-7160 for an extension of the Commission's confirmation and approval of SEPA's Wholesale Power Rate Schedules G-A-1 (Revised), G-A-2, ALA-1 (Revised), SC-1 (Revised), SC-2, CAR-1 (Revised), and CAR-2 (Revised) for the sale at wholesale of electric power and energy generated at the Allatoona, Buford, Clark Hill, Walter F. George, Hartwell, and Millers Ferry Projects, which are Federal reservoir projects variously located in the States of Alabama, Georgia, and South Carolina. The Commission, by order issued June 29, 1970, in this docket (43 FPC 970), approved such rate schedules, except Rate Schedule G-A-1 (Revised), for the period ending June 20, 1974. Rate Schedule G-A-1 (Revised) was approved for the period ending June 20, 1974 by Commission order issued September 10, 1970 in this docket (44 FPC 743). Approval of all the aforementioned rate schedules is now requested by the Secretary for the additional period of one year beginning June 20, 1974.

Rate Schedule G-A-1 (Revised) is available to public bodies and cooperatives (preference customers) in Alabama and Georgia. It is applicable to (1) power and energy generated at the Allatoona, Buford, Clark Hill, Walter F. George, Hartwell, and Millers Ferry Projects, and (2) deficiency energy purchased by SEPA from Alabama Power Company (Alabama Power) and Georgia Power Company (Georgia Power) for resale. Deliveries of power and energy sold by SEPA under this rate schedule are accomplished by means of the electric transmission systems of Alabama Power and Georgia Power, which wheel the power and energy to preference customers for the account of SEPA.

Rate Schedule G-A-2 is available to Alabama Power and Georgia Power. It is applicable to capacity and energy generated at the Allatoona, Buford, Clark Hill, Walter F. George, Hartwell, and Millers Ferry Projects and delivered at the project bus bar.

Rate Schedule ALA-1 (Revised) is available to Alabama Electric Cooperative, Inc. It is applicable to power and accompanying energy generated at the Walter F. George Project and delivered at the project bus bar.

Rate Schedule SC-1 (Revised) is available to South Carolina Public Service Authority (South Carolina Authority). It is applicable to power and accompanying energy generated at the Clark Hill Project and delivered at the project bus bar.

Rate Schedule SC-2 is available to any

of the following entities whose power and energy requirements, or a portion thereof, SEPA contracts to supply by delivery over South Carolina Authority's electric facilities: (1) Any municipality or county located wholly or partly within South Carolina Authority's service area which owns an electric transmission or distribution system and seeks to purchase capacity and energy from SEPA for resale to consumers; (2) Central Electric Cooperative, Inc. (Central); (3) any electric cooperative not a member of Central, but operating under the laws of the State of South Carolina wholly or partly within South Carolina Authority's service area and seeking to purchase capacity and energy from SEPA for resale to consumers. This rate schedule is applicable to power and accompanying energy generated at the Clark Hill Project.

Rate Schedule CAR-1 (Revised) is available to preference customers in North Carolina and South Carolina. It is applicable to power and accompanying energy generated at the Clark Hill and Hartwell Projects. Deliveries of power and energy sold by SEPA under this rate schedule are accomplished by means of the electric transmission system of Duke Power Company (Duke), which wheels power and energy to preference customers for the account of SEPA.

Rate Schedule CAR-2 (Revised) is available to Duke. It is applicable to capacity and energy generated at the Clark Hill and Hartwell Projects and delivered at the project bus bar.

SEPA's rates and charges, as set forth in the subject rate schedules, are generally as follows: The rates for capacity and energy sold at the bus bar of any project are \$0.90 per kw per month for capacity and 2.65 mills per kwh for energy. The rates for capacity and energy wheeled and delivered to preference customers are \$0.90 per kw per month for capacity and 3.25 mills per kwh for energy. The rate for dump energy, which may be purchased under Rate Schedules G-A-2, ALA-1 (Revised), SC-1 (Revised) and CAR-2 (Revised), is 2 mills per kwh, except that under Rate Schedule G-A-2 the charge is equal to 80 percent of the calculated saving in the cost of fuel but not to exceed 2 mills per kwh.

The Secretary represents, in substance, that the requested extension of approval of SEPA's rate schedules is necessary for SEPA to make new marketing arrangements and prepare new rate schedules which will provide for the disposal of the output of three Federal reservoir projects now under construction as well as the output of the six constructed projects named above which are in operation. The new projects are the West Point Project, which is scheduled to commence commercial operation in the summer of 1974, and the Jones Bluff and Carters Projects, which are scheduled to commence commercial operation in the spring of 1975.¹

¹ The West Point Project is located in Georgia and Alabama, the Jones Bluff Project is located in Alabama, and the Carters Project is located in Georgia.

In support of the proposed extension of approval of SEPA's rate schedules, the Secretary indicates that they are expected to produce revenues adequate to repay all costs associated with the generation and transmission of the power and energy which is sold by SEPA from the six constructed projects, including the amortization of the total capital investment in the electric facilities of each project within 50 years from the date on which such project commenced commercial operation. The rate schedules are, therefore, expected to satisfy the payout requirements of the Act during the extension period.

Written notice of the Secretary's request for an extension of the Commission's approval of SEPA's rate schedules, as described above, was sent to Alabama Electric Cooperative, Inc., Central, South Carolina Authority, Alabama Power, Georgia Power, Duke, various State officials, and other interested persons. Notice of the request was also published in the FEDERAL REGISTER on April 12, 1974 (39 FR 13318), stating that any person desiring to make comments or suggestions for the Commission's consideration with respect to said rate schedules should submit the same in writing on or before April 26, 1974 to the Federal Power Commission, Washington, D.C. 20426. Subsequently, the time within which to submit comments or suggestions was extended to and including May 6, 1974 at the request of the City of Alachua, Florida and certain other cities (39 F.R. 17473). No comments or suggestions have been received.

The Commission finds:

The extension of approval of SEPA's rates and charges, as hereinafter provided, will not be inconsistent with the provisions of the Flood Control Act of 1944.

The Commission orders:

The confirmation and approval of SEPA's rates and charges for the sale of electric power and energy from the Allatoona, Buford, Clark Hill, Walter F. George, Hartwell, and Millers Ferry Projects, under Wholesale Power Rate Schedules G-A-1 (Revised), G-A-2, ALA-1 (Revised), SC-1 (Revised), SC-2, CAR-1 (Revised) and CAR-2 (Revised), all as set forth in the Commission's orders of June 29 and September 10, 1970, referred to above, are hereby extended for the period ending not later than June 20, 1975.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14327 Filed 6-21-74; 8:45 am]

[Project No. 1968]

WISCONSIN PUBLIC SERVICE CORP.

Notice of Issuance of Annual License

JUNE 17, 1974.

On June 27, 1969, Wisconsin Public Service Corporation, Licensee for Hat Rapids Project No. 1968, located in Oneida County, Wisconsin, on the Wisconsin

River filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (§§ 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 26, 1970.

The license for Project No. 1968 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to Wisconsin Public Service Corporation for continued operation and maintenance of Project No. 1968.

Take notice that an annual license is issued to Wisconsin Public Service Corporation (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Hat Rapids Project No. 1968, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14325 Filed 6-21-74; 8:45 am]

[Docket No. E-8137]

BOSTON EDISON CO.

Order Permitting Late Intervention

JUNE 18, 1974.

On May 28, 1974, Fitchburg Gas and Electric Light Company (Fitchburg), filed an untimely petition to intervene in the above-captioned proceeding. Fitchburg alleges that it has a substantial interest in this proceeding and will not be adequately represented by existing parties.

Because of the potential effect this proceeding may have on Fitchburg, we shall allow it to intervene out of time.

The Commission finds:

The participation of Fitchburg may be in the public interest.

The Commission orders:

(A) Fitchburg is permitted to intervene in this proceeding subject to the rules and regulations of the Commission and the hearing procedures set forth in the Commission order of May 9, 1974; provided, however, that participation of said intervenor shall be limited to matters affecting asserted rights and interests specifically set forth in their petition to intervene, and provided, further, the admission of such intervenor shall not be construed as recognition by the Commission that they might be aggrieved by any order or orders entered in this proceeding.

(B) The Secretary shall cause prompt publication of this order to be made in the FEDERAL REGISTER.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14409 Filed 6-21-74; 8:45 am]

[Project No. 2110]

CONSOLIDATED WATER POWER CO.

Notice of Issuance of Annual License

JUNE 17, 1974.

On February 10, 1969, Consolidated Water Power Company, Licensee for Stevens Point Project No. 2110, located in Portage County, Wisconsin, on the Wisconsin River, filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (Sections 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 27, 1970.

The license for Project No. 2110 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of Licensee's application the Commission action thereon, it is appropriate and in the public interest to issue an annual license to Consolidated Water Power Company for continued operation and maintenance of Project No. 2110.

Take notice that an annual license is issued to Consolidated Water Power Company (Licensee) under section 15 of the Federal Power Act for the period of July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Stevens Point Project No. 2110, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14411 Filed 6-21-74; 8:45 am]

[Project No. 2192]

CONSOLIDATED WATER POWER CO.

Notice of Issuance of Annual License

JUNE 18, 1974.

On February 10, 1969, Consolidated Water Power Company, Licensee for Biron Project No. 2192, located in Wood and Portage Counties, Wisconsin, on the Wisconsin River, filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (§§ 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 27, 1970.

The license for Project No. 2192 was issued effective January 1, 1938 for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to Consolidated Water Power Company for continued operation and maintenance of Project No. 2192.

Take notice that an annual license is issued to Consolidated Water Power Company (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974 to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Biron Project No. 2192 subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14421 Filed 6-21-74; 8:45 am]

[Docket No. CI73-742]

CONTINENTAL OIL CO.

Notice of Petition to Amend

JUNE 18, 1974.

Take notice that on June 3, 1974, Continental Oil Company (Petitioner), P.O. Box 2197, Houston, Texas 77001, filed in Docket No. CI73-742 a petition to amend the order of the Commission issued in said docket on June 8, 1973, pursuant to section 7(c) of the Natural Gas Act granting a certificate of public convenience and necessity authorizing the sale for resale and delivery of natural gas in interstate commerce to Transwestern Pipeline Company (Transwestern) from the Bone Springs Formation, Bell Lake Area, Lea County, New Mexico, by permitting said sale to continue for an additional year, all as more fully set forth in the petition to amend which is on file with the Commission and open to public inspection.

The order of June 8, 1973, authorized Petitioner to sell to Transwestern natural gas from the subject acreage for one year ending June 8, 1974, at a rate of 40.0 cents per Mcf at 14.65 psia, subject to upward and downward Btu adjustment from a base of 1,000 Btu per cubic foot of natural gas, within the contemplation of § 2.70 of the Commission's general policy and interpretations (18 CFR 2.70).

Petitioner requests the Commission to amend said order to authorize said sale of up to 5,000 Mcf of gas per day from the subject acreage to Transwestern for an additional one-year period. Petitioner's amended contract with Transwestern provides that the price for such sale shall remain at 40.0 cents per Mcf. Petitioner states that current sales volumes average approximately 150 Mcf per day. The

petition indicates that in the absence of Commission action on the instant petition by June 8, Petitioner, in order to avoid flaring of casinghead gas or shutting in the oil and gas production, contemplates commencing deliveries of gas under § 157.29 of the regulations under the Natural Gas Act (18 CFR 157.29).

Any person desiring to be heard of to make any protest with reference to said petition to amend should on or before July 10, 1974, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's rules.

KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14405 Filed 6-21-74; 8:45 am]

[Docket No. CI74-628]

JAMES M. FORGOTSON, SR.

Order Granting Intervention, Prescribing Procedures, and Setting Formal Hearing Date

JUNE 18, 1974.

On May 6, 1974, James M. Forgotson, Sr. (Applicant) filed in Docket No. CI74-628, an application requesting issuance of a limited term certificate of public convenience and necessity with pre-granted abandonment authority, pursuant to section 7(c) of the Natural Gas Act (Act) and the Commission's Regulations thereunder, for the sale of gas to United Gas Pipe Line Company (United) from the Tatum, SW/Hosston-Cotton Valley Field, Rusk County, Texas.

Applicant proposes to sell to United up to 10,000 Mcf daily for six months at a rate of 55.0 cents per Mcf (14.65 psia) plus 4.125 cents tax reimbursement, subject to upward Btu adjustment from 1,050 and downward from a 1,000 Btu base.

Applicant is presently selling gas to United from the subject acreage, at 43.0 cents per Mcf pursuant to a certificate of public convenience and necessity issued by the Commission in Docket No. CI73-851 on August 23, 1973. The authorization for the sale expires on August 23, 1974.

A petition to intervene in support of the application was filed by United on May 24, 1974. In support of its petition United states that it is presently curtailing deliveries to its customers; and that although the gas involved herein will not eliminate the need to curtail deliveries, it will have a direct relationship on the amount of gas United will have available for delivery to its customers.

We take note that the Commission in a recent order recognized that an emergency exists on United's system. See Basin Operating Co., Ltd., --- FPC ---, Docket No. CI74-459 issued April 30, 1974. We conclude, therefore, that there is an emergency on United's system which would warrant the issuance of a certificate if the price conforms to the public convenience and necessity.

The subject application was filed under Order No. 431¹ and therefore requires evidence to be submitted by the pipeline in the hearing hereinafter ordered (to the extent not hereinabove found to exist) (1) that it has an emergency need for such supply; (2) that it has made every reasonable effort to fill its storage field during the storage injection season; and (3) that, if curtailment is necessary on its system it has filed a plan pursuant to Section 4 of the Natural Gas Act. The proposed sale represents a sizable volume of gas potentially available to the interstate market and due to the nation's present shortfall of natural gas supplies, it is of critical importance that emergency supplies of gas be made available to interstate pipelines that show a need for such short-term supplies in order to avoid disruption of service to their customers. While the need for such supplies is manifest where the shortfall of supplies renders service on a pipeline's system potentially unreliable, we nevertheless must meet our statutory obligations and determine whether the proposed rate to be paid for such supply is required by the public convenience and necessity criteria of the Act. Atlantic Refining Company v. Public Service Commission of New York, 360 U.S. 378 (1960). We will therefore set this matter for hearing to establish an evidentiary record on the issues heretofore discussed. In that hearing, the record should contain evidence on whether the rate to be paid is "no higher than necessary to elicit the supply of gas" into the interstate market [Nueces Industrial Gas Company, 45 FPC 1224, 1227, (1971)] and whether that rate is in line with the prevailing intrastate market (Atlantic Richfield Company, --- FPC ---, Docket No. CI73-691, order issued August 30, 1973, and --- FPC ---, order granting rehearing issued October 10, 1973). The normal market price for this supply cannot be established merely on the basis of prices agreed to by affiliates. The price evidence must be based on arm's-length negotiations and competitive bidding through non-affiliated entities.

The Commission finds:

(1) It is necessary and proper and in the public interest and to aid in the enforcement of the provisions of the Natural Gas Act that the issues in this proceeding be scheduled for hearing in accordance with the procedures set forth below.

¹ Section 2.70 of the Commission's general policy and interpretations.

(2) The participation of United Gas Pipe Line Company may be in the public interest.

The Commission orders:

(A) The application for a limited term certificate for the sale of natural gas filed in Docket No. CI74-628 is hereby set for hearing.

(B) The above-named party is hereby permitted to intervene in this proceeding, subject to the Rules and Regulations of the Commission; provided, however, that the participation of such intervenor shall be limited to matters affecting asserted rights and interests as specifically set forth in said petition for leave to intervene; and provided, further, that the admission of said intervenor shall not be construed as recognition by the Commission that it might be aggrieved by any order or orders of the Commission entered in this proceeding.

(C) Pursuant to the authority of the Natural Gas Act, particularly sections 7 and 15 thereof, the Commission's rules of practice and procedure, and the regulations under the Natural Gas Act, a public hearing shall be held on August 8, 1974, at 10 a.m. in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, concerning the issue of whether a certificate of public convenience and necessity should be granted as requested by the applicant.

(D) On or before July 18, 1974, James M. Forgotson, and any supporting party shall file with the Commission, and upon all parties, including Commission Staff Counsel, their testimony and exhibits in support of the instant application.

(E) An Administrative Law Judge to be designated by the Chief Administrative Law Judge for that purpose [see Delegation of Authority, (18 CFR 3.5 (d))], shall preside at the hearings in this proceeding and shall prescribe relevant procedural matters not herein provided.

By the Commission.

Commissioner Smith, concurring, issued a separate statement which is filed as part of the original document.

Commissioner Moody, dissenting, issued a separate statement which is filed as part of the original document.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14407 Filed 6-21-74; 8:45 am]

[Docket No. E-8835]

GULF STATES UTILITIES CO.

Notice of Change in Metering Points

JUNE 18, 1974.

Take notice that on June 6, 1974, Gulf States Utilities Company (Gulf States) tendered for filing a change in metering points under its Electric Service Agreement with Cajun Electric Power Cooperative, Inc., designated FPC Rate Schedule No. 104. According to Gulf States, the change involves a new metering point of service on the West Side of

New Roads, Louisiana at Louisiana Highway numbers 1 and 3115.

Gulf States states that the in service date is projected to be July 1, 1974.

Any person desiring to be heard or to protest said application should file a petition to intervene or protest with the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, in accordance with §§ 1.8 and 1.10 of the Commission's rules of practice and procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before July 1, 1974. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this application are on file with the Commission and are available for public inspection.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14418 Filed 6-21-74;8:45 am]

[Docket No. E-8494]

MINNESOTA POWER & LIGHT CO.

Order Denying Application for Rehearing

JUNE 17, 1974.

On November 16, 1973, Minnesota Power & Light Company (MP&L) tendered for filing proposed changes in its rates and charges to twenty-one wholesale customers. By order of February 15, 1974, the Commission suspended the proposed increase for the full statutory period, permitted intervention, and established hearing procedures. The Commission also assigned January 18, 1974, as the effective date for MP&L's proposed changes.

On March 8, 1974, Village of Hibbing, City of Two Harbors and City of Virginia (Cities) requested the Commission to issue an order rejecting the rates filed by MP&L applicable to service for other than Firm Power to Cities.

By order of April 29, 1974, the Commission amended its order of February 15, 1974, so as to confine the hearing therein established pursuant to section 205 of the Federal Power Act to the propriety of MP&L's proposed increase but only as such proposed increase would effect the provisions relating to Firm Power in Cities' contracts.

On May 28, 1974, MP&L filed an Application for Rehearing of the April 29, 1974, order. MP&L's Application alleges that we misinterpreted the provisions of its contract with Cities; that the language in the Cities' contracts was similar to that approved by the Supreme Court as permitting unilateral rate change filings in United Gas Pipe Line Company v. Memphis Light, Gas and Water Division, et al., 385 U.S. 105 (1959).

We have not taken issue with the language of the contracts as it relates to the Memphis ruling. The contracts with Cities do provide for unilateral rate changes. The question is to which serv-

ices under the contracts do the provisions for unilateral change apply.

The contracts of each of the Cities are similar, for each the only reference to unilateral change appears under Firm Power Section 4.04, Article IV, as follows:

4.04 Firm Power Schedule of Rates. Firm power shall be available from Company at the rates and under the terms and conditions set forth herein and in the applicable rate schedule attached hereto and made a part hereof and marked as Exhibit C, or other superseding rate schedules effective as hereinafter provided. This agreement and all the rates and charges herein are subject to approval, amendment and change by any and all state or Federal regulatory bodies having jurisdiction thereof. Both Company and Customer reserve the right to seek amendments, changes, increases or decreases in the rates and charges set forth herein, in accordance with law, from any State or Federal regulatory body having jurisdiction thereof.

Section 4.05, Excess Capacity, 4.06, Spinning Reserve, 4.07, Economy Energy, and 4.08, Emergency Energy and Scheduled Outage Energy, contain no provision for the unilateral change of rates or terms and conditions of service. Nor does Section 4.11, Billing, which is generally applicable to all of the services provided for in Article IV, contain a provision for unilateral change.

It is MP&L's contention that the insertion of the provision for unilateral rate change within the Firm Power Section of the contracts makes the provision applicable to all categories of service provided in the contracts. To reach such a conclusion would be to distort the language of the contract and the apparent intent of the parties. We shall, therefore, deny MP&L's Application.

The Commission finds:

MP&L's Application for Rehearing filed on May 28, 1974, raises no facts or points of law which would provide an appropriate basis for modification of the Commission's Order of April 29, 1974.

The Commission orders:

(A) MP&L's Application for Rehearing filed May 28, 1974, is denied.

(B) The Secretary shall cause prompt publication of this order in the FEDERAL REGISTER.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14408 Filed 6-21-74;8:45 am]

[Project No. 1855]

NEW ENGLAND POWER CO.

Notice of Issuance of Annual License

JUNE 18, 1974.

On June 23, 1969, New England Power Company, Licensee for Bellows Falls Project No. 1855, located in Windham and Windsor Counties, Vermont, and Cheshire and Sullivan Counties, New Hampshire, on the Connecticut River, filed an application for a new license under section 15 of the Federal Power Act and Commission Regulations thereunder (Sections 16.1-16.6). Licensee also

made a supplemental filing pursuant to Commission Order No. 384 on February 24, 1970.

The license for Project No. 1855 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to New England Power Company for continued operation and maintenance of Project No. 1855.

Take notice that an annual license is issued to New England Power Company (Licensee) under Section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Bellows Falls Project No. 1855, subject to the terms and conditions of its present license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14414 Filed 6-21-74;8:45 am]

[Project No. 1904]

NEW ENGLAND POWER CO.

Notice of Issuance of Annual License

JUNE 18, 1974.

On June 23, 1969, New England Power Company, Licensee for Vernon Project No. 1904, located in Cheshire County, New Hampshire and Windham County, Vermont, near Hinsdale, Chesterfield, Westmoreland and Walpole, New Hampshire and Vernon, Brattleboro, Dummerston, Putney and Westminster, Vermont, on the Connecticut River, filed an application for a new license under section 15 of the Federal Power Act and Commission Regulations thereunder (Sections 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 24, 1970.

The license for Project No. 1904 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration the project has been under annual license. In order to authorize the continued operation of the project pursuant to Section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to New England Power Company for continued operation and maintenance of Project No. 1904.

Take notice that an annual license is issued to New England Power Company (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for

the continued operation and maintenance of the Vernon Project No. 1904, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc. 74-14416 Filed 6-21-74; 8:45 am]

[Docket No. E-8217]

**NEW ENGLAND POWER SERVICE
COMPANY AND BOSTON EDISON CO.**

Transmission Agreements for Filing, Investigation, Granting Waiver of Notice Requirements and Consolidating Proceedings

JUNE 17, 1974.

On May 21, 1973, New England Power Service Company (New England) filed a joint application on behalf of itself and Boston Edison Company (Edison) requesting the approval of contract providing for transmission services by Applicants to Fitchburg Gas and Electric Light Company (Fitchburg),¹ contract dated July 14, 1972, and to Public Service Company of New Hampshire (PSNH),² contract dated September 21, 1972.

In Docket No. E-8137, Fitchburg executed a system power contract, dated May 1, 1972, with Edison for the purchase of system power beginning with the date of commercial operation of Pilgrim Unit No. 1 and ending on September 30, 1981. Furthermore, in Docket No. E-8139, PSNH executed a system power contract, dated September 21, 1972, with Edison for the purchase of system power commencing with the date of commercial operation of Pilgrim Unit No. 1 and terminating on April 30, 1974.³ Applicants state that the application in this docket provides for the transmission of aforementioned power to Fitchburg and PSNH because Edison's system is not contiguous with either of the proposed buyers and is interconnected with said buyers through the system of New England.

The proposed Transmission Agreement dated September 21, 1972, among Edison, New England and PSNH provides for Edison and New England to deliver the "Public Service Quota" to PSNH. The "Public Service Quota" is comprised of the following:

60-MW—From the first day of commercial operation of Edison's Pilgrim Unit No. 1 through October 31, 1972;

100-MW—From November 1, 1972 through April 30, 1973;

40-MW—From November 1, 1973 through April 30, 1974.

The proposed transmission contract dated July 14, 1972, among Edison, New England and Fitchburg provides for Edison and New England to deliver the "Fitchburg Quota" which is comprised of the following:

40-MW—From the first day of commercial operation of Edison's Pilgrim Unit No. 1 through September 30, 1981.

Finally, Applicants request a waiver of the 30 day prior notice requirement in this docket to permit an effective date of December 9, 1972, the date on which the Pilgrim Unit No. 1 began commercial operations.

The filing of May 21, 1973, was noticed on June 19, 1973, setting July 9, 1973, as the due date for responses. No comments, protests, or petition to intervene have been received.

Since the transmission contract dated September 21, 1972, with PSNH has expired, no useful purpose would be served by instituting an investigation thereof under section 206 of the Federal Power Act. However, our review of the transmission agreement with Fitchburg indicates, inter alia, that the proposed transmission charge, over-all return and the cost basis of the rate may be excessive and therefore the proposed rate may be excessive and therefore the proposed rate may be unjust, unreasonable, unduly discriminatory or preferential or otherwise unlawful. Accordingly, we shall institute an investigation under section 206 of the Federal Power Act to determine the justness and reasonableness of the filed rate schedules Boston Edison Company, Rate Schedule FPC No. 74 and New England Power Company Rate Schedule FPC No. 262. Furthermore, our review of the filing indicates that a waiver of the 30 day notice requirement of § 35.3 of the Commission's regulations is appropriate. Accordingly, we shall accept the proposed rate schedules for filing, to become effective as of December 9, 1972, the requested effective date.

Finally, we note that in related case in Docket No. E-8137, the Commission in an order issued May 9, 1974, instituted an investigation under section 206 of the Federal Power Act with respect to the contract between Fitchburg and Edison for the sale of the system power which is the subject of the transmission contract between Edison, New England and Fitchburg. Since the contracts in both proceedings are directly related, common issues of law and fact are raised. Accordingly, we will order consolidation of these dockets. Consistent with this action we will amend our order of May 9, 1974, in Docket No. E-8137 to provide dates for service of evidence and hearing consistent with this order.

The Commission finds:

(1) It is necessary and proper in the public interest and to aid in the enforcement of the Federal Power Act that an investigation be instituted under section 206 thereof concerning the lawfulness of Applicant's proposed transmission con-

tract with Fitchburg designated as Boston Edison Company, Rate Schedule FPC No. 74 and New England Power Company, Rate Schedule FPC No. 262.

(2) The Commission finds good cause to allow Applicants' requested waiver of the 30 day notice requirement to permit an effective date of December 9, 1972.

(3) Good cause exists for consolidation of Docket Nos. E-8217 and E-8137.

(4) Consistent with our action consolidating Docket Nos. E-8217 and E-8137, the procedural dates set forth in our May 9, 1974 order in Docket No. E-8137 should be amended as hereinafter ordered.

The Commission orders:

(A) Pursuant to the authority of the Federal Power Act, particularly section 206 thereof, and the Commission's rules and regulations and the regulations under the Federal Power Act (18 CFR Chapter I), a public hearing shall be held on September 17, 1974, at 10 a.m., e.d.t. in a hearing room of the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, concerning the lawfulness of New England's and Edison's proposed rates to Fitchburg.

(B) Edison and New England shall serve its prepared testimony and exhibits on or before July 18, 1974. The Commission Staff shall serve its prepared testimony and exhibits on or before August 16, 1974. Any rebuttal evidence by Edison shall be served on or before September 6, 1974.

(C) A Presiding Administrative Law Judge to be designated by the Chief Administrative Law Judge for that purpose (See Delegation of Authority, 18 CFR 3.5(d)), shall preside at the hearing in this proceeding, shall prescribe relevant procedural matters not herein provided, and shall control this proceeding in accordance with the policies expressed in the Commission's rules of practice and procedure.

(D) Nothing contained herein should be construed as limiting the rights of the parties to this proceeding regarding the convening of conferences or offers of settlement pursuant to § 1.18 of the Commission's rules of practice and procedure.

(E) Edison's and New England's proposed transmission agreements with PSNH and Fitchburg, filed on May 21, 1973, in Docket No. E-8217, are hereby accepted for filing to be effective on December 9, 1972, subject to the terms and conditions of this order.

(F) Docket Nos. E-8137 and E-8217 are hereby consolidated and set for hearing in accordance with the schedule established in ordering paragraph (A) hereof.

(G) The procedural dates in Docket No. E-8137 as set for in our order of May 9, 1974, are hereby amended in accordance with the service dates set forth in ordering paragraph (B) hereof.

(H) Waiver of the notice requirements under § 35.3 of the Commission's regulations to permit an effective date of December 9, 1972, is hereby granted.

¹ Designated as Boston Edison Company, Rate Schedule FPC No. 74 and New England Power Company, Rate Schedule FPC No. 262.

² Designated as Boston Edison Company, Rate Schedule FPC No. 73 and New England Power Company, Rate Schedule FPC No. 261.

³ See Boston Edison Company, Docket Nos. E-8137 and E-8139, Order Accepting Initial Rate Schedules, Initiating An Investigation Under Section 206 of The Federal Power Act, And Granting Waiver Of The Notice Requirements, issued May 9, 1974.

(I) The Secretary shall cause prompt publication of this order in the *FEDERAL REGISTER*.

By the Commission.

[SEAL] KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14406 Filed 6-21-74;8:45 am]

[Docket Nos. CI74-264 and CI74-408]

**PENNZOIL COMPANY AND ANADARKO
PRODUCTION CO.**

**Notice of Extension of Time and
Postponement of Hearing**

JUNE 18, 1974.

On June 7, 1974, the Pennzoil Company filed a motion to postpone the procedural dates fixed by order issued May 31, 1974 in the above-designated matter. The motion states that neither interveners nor Staff Counsel opposed the motion.

Upon consideration, notice is hereby given that the procedural dates in the above matter are modified as follows:

Service of evidence by Pennzoil and supporting interveners, July 5, 1974.

Service of evidence by Staff and opposing interveners, July 19, 1974.

Service of rebuttal testimony and evidence, July 30, 1974.

Hearing, August 6, 1974 (10 a.m. e.d.t.).

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14419 Filed 6-21-74;8:45 am]

[Docket No. RP73-49]

SOUTH GEORGIA NATURAL GAS CO.

Notice of Revision to Tariff

JUNE 18, 1974.

Take notice that on June 10, 1974, South Georgia Natural Gas Company (South Georgia) tendered for filing as part of Original Volume No. 1 to its FPC Gas Tariff the following revised tariff sheets:

Seventh Revised Sheet No. 3A
Thirty-Second Revised Sheet No. 5
Thirty-First Revised Sheet No. 6
Twenty-Third Revised Sheet No. 9
Twenty-Second Revised Sheet No. 11
Twenty-Sixth Revised Sheet No. 12B

South Georgia states that the above sheets represent a rate change under its PGA clause, such clause approved to become effective April 14, 1973, by Commission Order in FPC Docket No. RP73-49 issued April 13, 1973. The company further states that it proposes to increase its rates \$102,321 for the purpose of tracking a rate increase filing by Southern Natural Gas Company (Southern) on June 7, 1974, which would increase South Georgia's cost of gas \$173,225 annually. An effective date of July 22, 1974 is requested.

South Georgia has requested waiver of the forty-five (45) day notice requirement as set forth in section 14.2(e) of the general terms and conditions of South Georgia's FPC Gas Tariff. South

Georgia states that knowledge of Southern's filing, which South Georgia proposes to track, was not known to South Georgia until June 7, 1974 making it impossible for South Georgia to comply with the forty-five (45) day notice requirement.

Any person desiring to be heard or to protest said filing should file a petition to intervene or protest with the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, in accordance with §§ 1.8 and 1.10 of the Commission's rules of practice and procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before July 2, 1974. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14420 Filed 6-21-74;8:45 am]

[Project No. 2161]

ST. REGIS PAPER CO.

Notice of Issuance of Annual License

JUNE 18, 1974.

On March 12, 1969, St. Regis Paper Company, Licensee for Rhinelander Project No. 2161, located in Oneida County, Wisconsin, on the Wisconsin River, filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (Sections 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 27, 1970.

The License for Project No. 2161 was issued effective January 1, 1938 for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to St. Regis Paper Company for continued operation and maintenance of Project No. 2161.

Take notice that an annual license is issued to St. Regis Paper Company (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974 to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Rhinelander Project No. 2161, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14417 Filed 6-21-74;8:45 am]

[Docket No. CP74-313]

TEXAS GAS TRANSMISSION CORP.

Notice of Application

JUNE 18, 1974.

Take notice that on June 4, 1974, Texas Gas Transmission Corporation (Applicant), 3800 Frederica Street, Owensboro, Kentucky 42301, filed in Docket No. CP74-313 an application pursuant to section 7(c) of the Natural Gas Act for a certificate of public convenience and necessity authorizing retention in place and the operation of certain natural gas facilities in Texas, all as more fully set forth in the application which is on file with the Commission and open to public inspection.

Applicant states that pursuant to § 157.22 of the Commission's regulations under the Natural Gas Act (18 CFR 157.22), it constructed and placed into actual operation 2.48 miles of 4-inch pipeline and one meter station in the East Angelita Area, San Patricio County, Texas, in order to permit Applicant to receive natural gas from Union Oil Company of California (Union) under a new sale presently pending authorization in Docket No. CI74-573¹ and from Applicant-owned reserves also located in the East Angelita Area.

Applicant states that Union had dedicated approximately 298,000 Mcf of natural gas to Applicant over a three-year period and that Applicant and Union as co-owners of certain leases in the East Angelita Area own approximately 199,000 Mcf of natural gas reserves. The application indicates that these reserves are being added to Applicant's general system supply.

Applicant states that the cost of the facilities proposed to be retained is \$142,000, which was financed from cash on hand.

Any person desiring to be heard or to make any protest with reference to said application should on or before July 10, 1974, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10) and the regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's rules.

Take further notice that, pursuant to the authority contained in and subject

¹ The initial price of gas which Applicant will purchase from Union under the proposed sale is 70 cents per Mcf, tax inclusive, plus tax reimbursement to Union of 1/3 of any increased taxes levied after January 29, 1974. Deliveries are estimated to be 1,800 Mcf per day over the three-year contract term.

to the jurisdiction conferred upon the Federal Power Commission by sections 7 and 15 of the Natural Gas Act and the Commission's rules of practice and procedure, a hearing will be held without further notice before the Commission on this application if no petition to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of the certificate is required by the public convenience and necessity. If a petition for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicant to appear or be represented at the hearing.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14410 Filed 6-21-74;8:45 am]

[Docket No. CP72-182]

**TEXAS GAS TRANSMISSION CORP. AND
TRANSCONTINENTAL GAS PIPE LINE
CORP.**

Notice of Petition to Amend

JUNE 18, 1974.

Take notice that on June 4, 1974, Texas Gas Transmission Corporation (Texas Gas), 3800 Frederica Street, Owensboro, Kentucky 42301, and Transcontinental Gas Pipe Line Corporation (Transco), P.O. Box 1396, Houston, Texas 77001, filed in Docket No. CP72-182 a petition to amend the Commission's order issued pursuant to section 7(c) of the Natural Gas Act on June 27, 1972 (47 FPC 1621), as amended February 7, 1974 (51 FPC _____), in the instant docket by authorizing Petitioners to add two additional points of delivery by Texas Gas to Transco and to add an additional balancing point between Petitioners, all as more fully set forth in the petition to amend which is on file with the Commission and open to public inspection.

The order of June 27, 1972, authorized Petitioners to construct and operate certain facilities in the Simon Pass Field, and the Dog Lake Field, located in St. Martin and Terrebonne Parishes, Louisiana, respectively, and to exchange and deliver natural gas pursuant to an exchange agreement between the parties. By order issued February 7, 1974, Petitioners were authorized to expand such exchange arrangements by the addition of exchange points in the Church Point Field, Acadia Parish, Louisiana, and Block 100, Eugene Island Area, offshore Louisiana.

Petitioners now propose to augment existing exchange arrangements pursuant to a letter agreement dated April 18, 1974, which provides for the addition of two additional points of delivery by Texas Gas to Transco and for an addi-

tional balancing point between Petitioners. Petitioners state that under said agreement Texas Gas will deliver or cause to be delivered up to 5,000 Mcf of natural gas per day to Transco at an interconnection of Petitioner's facilities in San Patricio County, Texas, and up to 1,000 Mcf of gas per day at a point on Transco's pipeline in the Tigre Lagoon Field, Vermilion Parish, Louisiana, and that all volumes of natural gas exchanged between Petitioners can be balanced in addition to the presently certificated Dog Lake interconnection at an existing interconnection between the Petitioners near Eunice, Louisiana.

Petitioners additionally propose that certain charges set forth in April 18, 1974, agreement, be paid between Petitioners for the transportation of gas by one Petitioner for the other. The petition states that such charges are based on a negotiated charge of 2 cents per Mcf at 15.025 psia per hundred mile of haul by each Petitioner.

Petitioners assert that the proposed revisions to existing exchange arrangements will permit Texas Gas to receive into its system at the lowest possible cost to it gas from: (1) a presently certificated sale by Union Oil Company of California (Union) to Texas Gas in the Tigre Lagoon Field, (2) a new sale by Union from the East Angelita Area, San Patricio County presently pending authorization in Docket No. CI74-573, and (3) company-owned reserves of Texas Gas also located in the East Angelita Area of San Patricio County. The petition indicates that deliveries at the East Angelita and Eunice exchange points were commenced by Petitioners on April 5, 1974, pursuant to § 157.22 of the Commission's regulations under the Natural Gas Act (18 CFR 157.22). Texas Gas has filed in Docket No. CP74-182 for certificate authorization to retain said facilities in order to deliver the West Angelita gas reserves of Texas Gas and Union to Transco for exchange.

Any person desiring to be heard or to make any protest with reference to said petition to amend should on or before July 10, 1974, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's rules of practice and procedure (18 CFR 1.8 or 1.10) and the regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a petition to intervene in accordance with the Commission's rules.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14404 Filed 6-21-74;8:45 am]

[Project No. 1957]

WISCONSIN PUBLIC SERVICE CORP.

Notice of Issuance of Annual License

JUNE 18, 1974.

On June 27, 1969, Wisconsin Public Service Corporation, Licensee for Otter Rapids Project No. 1957, located in Vilas County, Wisconsin, on the Wisconsin River, filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (Sections 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 26, 1970.

The license for Project No. 1957 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to Wisconsin Public Service Corporation for continued operation and maintenance of Project No. 1957.

Take notice that an annual license is issued to Wisconsin Public Service Corporation (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Otter Rapids Project No. 1957, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14415 Filed 6-21-74;8:45 am]

[Project No. 1989]

WISCONSIN PUBLIC SERVICE CORP.

Notice of Issuance of Annual License

JUNE 17, 1974.

On June 27, 1969, Wisconsin Public Service Corporation, Licensee for Merrill Project No. 1989, located in the City of Merrill, Lincoln County, Wisconsin, on the Wisconsin River filed an application for a new license under section 15 of the Federal Power Act and the Commission regulations thereunder (Sections 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 25, 1970.

The license for Project No. 1989 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to Wisconsin

Public Service Corporation for continued operation and maintenance of Project No. 1989.

Take notice that an annual license is issued to Wisconsin Public Service Corporation (Licensee) under Section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Merrill Project No. 1989, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14413 Filed 6-21-74; 8:45 am]

[Project No. 1999]

WISCONSIN PUBLIC SERVICE CORP.
Notice of Issuance of Annual License

JUNE 17, 1974.

On June 27, 1969, Wisconsin Public Service Corporation, Licensee for Wausau Project No. 1999, located in the City of Wausau, Marathon County, Wisconsin, on the Wisconsin River, filed an application for a new license under section 15 of the Federal Power Act and Commission regulations thereunder (§§ 16.1-16.6). Licensee also made a supplemental filing pursuant to Commission Order No. 384 on February 26, 1970.

The license for Project No. 1999 was issued effective January 1, 1938, for a period ending June 30, 1970. Since the original date of expiration, the project has been under annual license. In order to authorize the continued operation of the project pursuant to Section 15 of the Act pending completion of Licensee's application and Commission action thereon, it is appropriate and in the public interest to issue an annual license to Wisconsin Public Service Corporation for continued operation and maintenance of Project No. 1999.

Take notice that an annual license is issued to Wisconsin Public Service Corporation (Licensee) under section 15 of the Federal Power Act for the period July 1, 1974, to June 30, 1975, or until Federal takeover, or the issuance of a new license for the project, whichever comes first, for the continued operation and maintenance of the Wausau Project No. 1999, subject to the terms and conditions of its license.

KENNETH F. PLUMB,
Secretary.

[FR Doc.74-14412 Filed 6-21-74; 8:45 am]

FEDERAL RESERVE SYSTEM
AMERICAN BANCORP, INC.

Order Approving Formation of Bank Holding Company

American Bancorp, Inc., Reading, Pennsylvania, has applied for the Board's approval under section 3(a)(1) of the Bank Holding Company Act (12 U.S.C. 1842(a)(1)) of formation of a bank holding company through acquisition of all of

the voting shares of the successor by merger to American Bank and Trust Co. of Pa. ("Bank"), Reading, Pennsylvania. The bank into which Bank is to be merged has no significance except as a means to facilitate the acquisition of the voting shares of Bank. Accordingly, the proposed acquisition of shares of the successor organization is treated herein as the proposed acquisition of the shares of Bank.

Notice of the application, affording opportunity for interested persons to submit comments and views, has been given in accordance with section 3(b) of the Act. The time for filing comments and views has expired, and none has been received. The Board has considered the application in light of the factors set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Applicant is a newly-formed company organized for the purpose of acquiring Bank. Bank has deposits of approximately \$745 million and operates a total of 40 offices operating in seven local markets.¹ (All banking data are as of June 30, 1973.) The transaction represents a reorganization whereby the present shareholders will change their direct ownership of Bank to indirect ownership through Applicant. Accordingly, the Board concludes that consummation of the proposal would have no adverse effects on existing or potential competition. Therefore, the Board concludes that competitive considerations are consistent with approval of the application.

The financial and managerial resources and future prospects of Applicant initially will be wholly dependent upon those of Bank which are satisfactory and consistent with approval of the application. There is no evidence in the record that the banking needs of the communities to be served are not being adequately met at present. However, as a result of the flexibility afforded by the holding company structure resulting from the proposal, Applicant and Bank should be better able to expand and improve their services. Hence, considerations relating to the convenience and needs of the communities to be served are consistent with approval.

Bank, under the authority of Pennsylvania law, operates two wholly-owned nonbanking subsidiaries that engage in activities at locations at which the bank may engage in such activities. Applicant's indirect acquisition of these subsidiaries (which engage in commercial finance activities and the holding of bank premises and properties acquired by Bank as a result of default on loans it has made) do not require approval of the Board, under the provisions of section 4(c)(5) and section 4(c)(1) (A) and (D) of the Act. Bank also owns Berks Title Insurance Company, a title insurance subsidiary which operates offices in Pennsylvania, Delaware, and Virginia. In addition Berks Title In-

¹ The local markets are the Reading, Philadelphia, Allentown-Bethlehem-Easton, Lancaster, Lebanon, Pottsville, and Hazleton banking markets.

Insurance Company maintains nonexclusive agents in the District of Columbia, Florida, North Carolina, and West Virginia, and maintains both exclusive and non-exclusive agents in Maryland, New Jersey, and Ohio. It appears that Bank, under applicable State law, could itself directly perform these activities at such locations. Berks Title Insurance Company would be considered an operations subsidiary of Bank if Bank were a State member bank (Interpretations, paragraph 4215, 12 CFR 250.141). Accordingly, pursuant to section 4(c)(5) of the Act and § 225.4(e) of Regulation Y, such activities do not require the approval of the Board.² On this basis, the Board concludes that consummation of the proposed transaction is in the public interest and that the application should be approved.

On the basis of the record, the application is approved for the reasons summarized above. The transaction shall not be made (a) before the thirtieth calendar day following the effective date of this Order or (b) later than three months after the effective date of this Order, unless such period is extended for good cause by the Board, or by the Federal Reserve Bank of Philadelphia pursuant to delegated authority.

By order of the Board of Governors,³
effective June 17, 1974.

[SEAL] CHESTER B. FELDBERG,
Secretary of the Board.

[FR Doc.74-14355 Filed 6-21-74; 8:45 am]

BANKERS TRUST NEW YORK CORP.
Order Approving Acquisition of California Bankers Trust Company

Bankers Trust New York Corporation, New York City, New York, a bank holding company within the meaning of the Bank Holding Company Act, has applied for the Board's approval, under section 4(c)(8) of the Act and § 225.4(b)(2) of the Board's Regulation Y, to acquire all of the voting shares of California Bankers Trust Company, Los Angeles, California ("Company"), a company that engages in the functions that may be carried on by a trust company in the manner authorized by State law, so long as the institution does not both accept demand deposits and make commercial loans. Such activity has been determined by the Board to be closely related to banking (12 CFR 225.4(a)(4)).¹

² See Order of September 4, 1973, approving application of Piedmont Financial Services, Inc. interest and that the application a bank holding company, 1973 Federal Reserve Bulletin 766.

³ Voting for this action: Chairman Burns and Governors Mitchell, Brimmer, Sheehan, Bucher, Holland, and Wallach.

⁴ By action taken on May 22, 1974, the Board of Governors amended its regulation relating to trust company activities of bank holding companies in order to clarify the scope of deposit-taking and lending activities permissible for such companies. The amendment supersedes the existing regulation and becomes effective on June 24, 1974.

Notice of the application, affording opportunity for interested persons to submit comments and views on the public interest factors, has been duly published (39 FR 14253). The time for filing comments and views has expired, and the Board has considered the application and all comments received in the light of the public interest factors set forth in section 4(c)(8) of the Act (12 U.S.C. 1843(c)).

Applicant, the fifth largest bank holding company in New York, controls nine banks with aggregate deposits of \$8.9 billion, representing about 8 percent of the total deposits in commercial banks in the State.² Applicant's lead bank, Bankers Trust Company ("BTC"), New York, New York, with aggregate deposits of \$8.3 billion, provides wholesale banking services on a local, national and international level and retail banking services in the metropolitan New York market through a total of 86 offices. Through subsidiaries, Applicant is also engaged in nonbanking activities including mortgage banking, leasing and data processing companies.

Company, which administers total trust assets of approximately \$90 million, has its only office in Los Angeles. Company primarily serves Los Angeles County, from which it obtains in excess of 80 percent of its annual trust receipts; the remainder are derived from the neighboring counties of Orange, Kern, and Ventura. Company holds less than 1 percent of the aggregate trust assets held by commercial banks and trust companies with offices in Los Angeles County and ranks 16th among the 27 institutions offering fiduciary services in that area. Company is engaged solely in performing trust activities; acting as trustee for pension and profit sharing plans, trustee for personal trusts, executor of estates, investment advisor and custodian, and agent for corporate accounts. The five largest trust institutions in the market control in excess of 80 percent of total trust assets in the market.

Six of Applicant's subsidiary banks engage in trust activities; five offer trust services solely within their respective banking markets. Only BTC derives any trust business from outside its local banking market and from Company's service area. Although the volume of business which BTC derives from Los Angeles exceeds that of Company, the proposed acquisition would not eliminate any significant competition. BTC does not solicit personal trust business in Company's service area, but has a small amount of such business which is apparently derived from former New York residents who have moved into Company's service area. Most of BTC's trust business in Company's service area involves large corporate and employee benefit trust accounts and the assets of

each such account in excess of \$10 million. Accounts of this size are beyond Company's present capabilities. In view of Company's small size, the fact that it does not operate in New York and the fact that BTC does not compete for personal trust business in Los Angeles, there does not appear to be any significant existing competition between Company and Applicant or any of its subsidiaries.

Although there is the possibility of future competition developing between Applicant and Company and although Applicant has the resources to enter the market through de novo expansion, the elimination of future competition is not considered to be significant in light of the large number of existing competitors and Company's relatively small share of the market. In addition, other independent trust companies remain as potential entry vehicles for unrepresented holding companies, and affiliation with Applicant will enable Company to compete more effectively with the large institutions presently dominating the market. The Board concludes that no significant existing or potential competition would be eliminated upon approval of this application.

Upon consummation of this proposal, Applicant has committed to inject at least \$2 million in additional capital into Company, thereby significantly strengthening Company's financial resources. In addition, affiliation with Applicant will provide Company with access to Applicant's computer personnel and facilities, securities marketing expertise and investment research studies. There is no evidence in the record indicating that consummation of the proposed transaction would result in any undue concentration of resources, unfair competition, conflicts of interests, unsound banking practices or other adverse effects on the public interest.

Based upon the foregoing and other considerations reflected in the record, the Board has determined that the balance of the public interest factors the Board is required to consider under section 4(c)(8) is favorable. Accordingly, the application is hereby approved. This determination is subject to the conditions set forth in § 225.4(c) of Regulation Y and to the Board's authority to require such modification or termination of the activities of a holding company or any of its subsidiaries as the Board finds necessary to assure compliance with the provisions and purposes of the Act and the Board's regulations and orders issued thereunder, or to prevent evasion thereof.

The transaction shall be made not later than three months after the effective date of this Order, unless such period is extended for good cause by the Board or by the Federal Reserve Bank of New York.

² Voting for this action: Chairman Burns and Governors Mitchell, Brimmer, Sheehan, Bucher, Holland, and Wallach.

By order of the Board of Governors,² effective June 17, 1974.

[SEAL] CHESTER B. FELDBERG,
Secretary of the Board.

[FR Doc.74-14356 Filed 6-21-74; 8:45 am]

CAROLINA BANCORP, INC.

Proposed Acquisition of Finance Company

Carolina Bancorp, Inc., Sanford, North Carolina, has applied, pursuant to section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.4(b)(2) of the Board's Regulation Y, for permission to acquire voting shares of National Finance Company, Inc., Rockingham, North Carolina. Notice of the application was published on May 22, 1974, in newspapers of general circulation in the following locations: Clinton, Dunn, Durham, Erwin, Fuquay Varina, Laurinburg, Oxford, Raeford, and Robersonville, North Carolina.

Applicant states that the proposed subsidiary would engage in activities of consumer finance, dealer financing, and as sales agent for accident and health and credit life insurance on loans made at the aforementioned locations. Such activities have been specified by the Board in § 225.4(a) of Regulation Y as permissible for bank holding companies, subject to Board approval of individual proposals in accordance with the procedures of § 225.4(b).

Interested persons may express their views on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question should be accompanied by a statement summarizing the evidence that persons requesting the hearing proposes to submit or to elicit at the hearing and a statement of the reasons why this matter should not be resolved without a hearing.

The application may be inspected at the offices of the Board of Governors or at the Federal Reserve Bank of Richmond.

Any views or requests for hearing should be submitted in writing and received by the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, not later than July 16, 1974.

Board of Governors of the Federal Reserve System, June 18, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14357 Filed 6-21-74; 8:45 am]

CENTRAL STATES BANCOR, INC.

Formation of Bank Holding Company

Central States Bancor, Inc., Des Moines, Iowa, has applied for the Board's

² All banking data are as of June 30, 1973, and reflect bank holding company formations and acquisitions approved by the Board through May 31, 1974.

approval under section 3(a)(1) of the Bank Holding Company Act (12 U.S.C. 1842(a)(1)) to become a bank holding company through acquisition of 90 percent or more of the voting shares of Capital City State Bank, Des Moines, Iowa. The factors that are considered in acting on the application are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of Chicago. Any person wishing to comment on the application should submit views in writing to the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, to be received not later than July 2, 1974.

Board of Governors of the Federal Reserve System, June 13, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14358 Filed 6-21-74;8:45 am]

FEDERAL OPEN MARKET COMMITTEE Domestic Policy Directive of March 18-19, 1974

In accordance with § 271.5 of its rules regarding availability of information, there is set forth below the Committee's Domestic Policy Directive issued at its meeting held on March 18-19, 1974.¹

The information reviewed at this meeting suggests that real output of goods and services is declining in the current quarter, mainly because of the oil situation, and that prices are continuing to rise rapidly. In February industrial production and manufacturing employment declined again, while total nonfarm payroll employment recovered, and the unemployment rate was unchanged at 5.2 percent. Prices of farm and food products and industrial commodities increased sharply, although less so than in the preceding 2 months. Increases in wage rates appear to have moderated in recent months.

After depreciating during the first 3 weeks of February, the dollar has since shown little net change against leading foreign currencies. The U.S. trade surplus remained large in January, despite a further sharp rise in the cost of petroleum imports.

The narrowly defined money stock, after having declined in January, increased sharply in February and early March. Broader measures of the money stock rose substantially in February, as net inflows of consumer-type time deposits remained relatively strong. Business short-term borrowing at banks and in the open market has continued at a rapid pace. Following earlier declines, both short- and long-term market interest rates have risen appreciably in recent weeks.

¹ The Record of Policy Actions of the Committee for the meeting of March 18-19, 1974, is filed as part of the original document. Copies are available on request to the Board of Governors of the Federal Reserve System, Washington, D.C. 20551.

In light of the foregoing developments, it is the policy of the Federal Open Market Committee to foster financial conditions conducive to resisting inflationary pressures, supporting a resumption of real economic growth, and maintaining equilibrium in the country's balance of payments.

To implement this policy, while taking account of international and domestic financial market developments, including the prospective Treasury financing, the Committee seeks to achieve bank reserve and money market conditions that would moderate growth in monetary aggregates over the months ahead.

By order of the Federal Open Market Committee, June 17, 1974.

ARTHUR L. BROIDA,
Secretary.

[FR Doc.74-14359 Filed 6-21-74;8:45 am]

FIRST CITY BANCORPORATION OF TEXAS, INC.

Acquisition of Bank

First City Bancorporation of Texas, Inc., Houston, Texas, has applied for the Board's approval under section 3(a)(3) of the Bank Holding Company Act (12 U.S.C. 1842(a)(3)) to acquire 762.4 voting shares of Citizens State Bank, Sealy, Texas, which acquisition will maintain and will not increase Applicant's percentage ownership of Citizens State Bank. The factors that are considered in acting on the application are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of Dallas. Any person wishing to comment on the application should submit views in writing to the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, to be received not later than July 2, 1974.

Board of Governors of the Federal Reserve System, June 13, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14360 Filed 6-21-74;8:45 am]

GAMBLE-SKOGMO, INC.

Nonbanking Activities

Gamble-Skogmo, Inc., Minneapolis, Minnesota, has applied, pursuant to section 4(d) of the Bank Holding Company Act (12 U.S.C. 1843(d)), for an exemption from the provisions of the Act limiting the nonbanking activities of a bank holding company. Applicant controls Gambles Continental State Bank, St. Paul, Minnesota.

Under section 4(d), the exemption may be granted "(1) to avoid disrupting business relationships that have existed over a long period of years without adversely affecting the banks or communities involved, or (2) to avoid forced sales of small locally owned banks to purchasers not similarly representative of commu-

ity interests, or (3) to allow retention of banks that are so small in relation to the holding company's total interests and so small in relation to the banking market to be served as to minimize the likelihood that the bank's powers to grant or deny credit may be influenced by a desire to further the holding company's other interests."

Interested persons may express their views on this matter. The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of Minneapolis. Any request for a hearing on this matter should be accompanied by a statement summarizing the evidence the person requesting the hearing proposes to submit or to elicit at the hearing and a statement of the reasons why this matter should not be resolved without a hearing.

Any views or requests for a hearing should be submitted in writing and received by the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, not later than July 15, 1974.

Board of Governors of the Federal Reserve System, June 17, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14361 Filed 6-21-74;8:45 am]

GREATER JERSEY BANCORP.

Order Approving Acquisition of Bank

Greater Jersey Bancorp., Clifton, New Jersey, a bank holding company within the meaning of the Bank Holding Company Act, has applied for the Board's approval under section 3(a)(3) of the Act (12 U.S.C. 1842(a)(3)), to acquire 100 percent of the voting share (less directors' qualifying shares) of the successor by merger to Plaza National Bank, Secaucus, New Jersey ("Bank"). The bank into which Bank is to be merged has no significance except as a means to facilitate the acquisition of the voting shares of Bank. Accordingly, the proposed acquisition of shares of the successor organization is treated herein as the proposed acquisition of the shares of Bank.

Notice of the application, affording opportunity for interested persons to submit comments and views, has been given in accordance with section 3(b) of the Act. The time for filing comments and views has expired, and the Board has considered the application and all comments received in light of the factors set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Applicant, the seventh largest banking organization in New Jersey, controls two banks with aggregate deposits of approximately \$671 million, representing 3.3 percent of the total deposits in commercial banks in the State.¹ Acquisition

¹ Applicant's ranking among the State's banking organizations is based on deposit data of June 30, 1973. All other banking data are as of December 31, 1973 and reflect bank holding company formations and acquisitions approved by the Board through April 30, 1974.

of Bank would increase Applicant's share of State deposits by one-tenth of one percent and would not significantly increase the concentration of banking resources in the State. Upon consummation of the proposed acquisition, Applicant would become the sixth largest banking organization in New Jersey.

Bank holds deposits of approximately \$26 million and operates each of its three offices in eastern Hudson County, New Jersey. The relevant geographic market for the analysis of the competitive effects of the proposed acquisition is the Metropolitan, New York banking market.² In this market, Applicant's subsidiary banks and Bank control an insignificant share of total deposits and, upon consummation of the proposal, Applicant would still control less than one-tenth of one percent of total market deposits in commercial banks. Applicant's banking subsidiary closest to Bank (New Jersey Bank, N.A.) has an office situated four miles away from an office of Bank. However, neither institution derives an appreciable amount of deposits or loans from the service area of the other. As a result, there appears to be no meaningful competition existing between Applicant and Bank. Moreover, it is unlikely that consummation of the proposal would foreclose the development of significant potential competition. The city of Secaucus, Bank's home office location, is closed to branching until 1977 and its population to banking office ratio is almost one-half the State average. The remaining communities in eastern Hudson County have experienced a population decline since 1950 and the communities' median family incomes are below the State average. Thus, it appears unlikely that Applicant would enter Bank's service area either by branching or de novo. Accordingly, the Board concludes that the proposed transaction would not have a significantly adverse effect on competition in any relevant area and that competitive considerations are consistent with approval of the application.

Considerations relating to the financial and managerial resources of Applicant, its subsidiaries, and Bank are considered satisfactory and the future prospects for each appear favorable. Thus, the banking factors are consistent with approval of the application. Although there is no evidence in the record to indicate that the major banking needs of the area are not currently being met, Applicant proposes to introduce trust services, line-of-credit check with free checking accounts, 24-hour automated teller services and data processing services; as well as provide its expertise in construction lending and international banking. The expansion and improve-

ments in these Bank's services should benefit the residents of the area. Therefore, the considerations relating to the convenience and needs of the communities to be served lend some weight toward approval of the application. Accordingly, it is the Board's judgment that consummation of the proposed acquisition is in the public interest and that the application should be approved.

On the basis of the record, the application is approved for the reasons summarized above. The transaction shall not be made (a) before the thirtieth calendar day following the effective date of this Order or (b) later than three months after the effective date of this Order, unless such period is extended for good cause by the Board, or by the Federal Reserve Bank of New York, pursuant to delegated authority.

By order of the Board of Governors,³ effective June 14, 1974.

[SEAL] CHESTER B. FELDBERG,
Secretary of the Board.

[FR Doc.74-14362 Filed 6-21-74;8:45 am]

INDEPENDENT BANKSHARES CORP. Acquisition of Bank

Independent Bankshares Corporation, San Rafael, California, has applied for the Board's approval under section 3(a) (3) of the Bank Holding Company Act (12 U.S.C. 1842(a)(3)) to acquire 100 percent of the voting shares (less directors' qualifying shares) of the successor by merger to Bank of Lake County, Lakeport, California. The factors that are considered in acting on the application are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of San Francisco. Any person wishing to comment on the application should submit his views in writing to the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, to be received not later than July 15, 1974.

Board of Governors of the Federal Reserve System, June 14, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14363 Filed 6-21-74;8:45 am]

TCG CORP.

Formation of Bank Holding Company

TCG Corporation, Atlanta, Georgia, has applied for the Board's approval under section 3(a) (1) of the Bank Holding Company Act (12 U.S.C. 1842(a)(1)) to become a bank holding company through acquisition of all of the voting shares (less directors' qualifying shares) of the successor by merger to Trust Company of Georgia, Atlanta, Georgia. The factors that are considered in acting on

² Voting for this action: Chairman Burns and Governors Mitchell, Sheehan, Bucher, and Holland. Absent and not voting: Governors Brimmer and Wallach.

the application are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of Atlanta. Any person wishing to comment on the application should submit views in writing to the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551 to be received not later than July 11, 1974.

Board of Governors of the Federal Reserve System, June 13, 1974.

[SEAL] THEODORE E. ALLISON,
Assistant Secretary of the Board.
[FR Doc.74-14364 Filed 6-21-74;8:45 am]

TENNESSEE VALLEY BANCORP, INC. Order Approving Acquisition of Bank

Tennessee Valley Bancorp, Inc., Nashville, Tennessee, a bank holding company within the meaning of the Bank Holding Company Act, has applied for the Board's approval under section 3(a) (3) of the Act (12 U.S.C. 1842(a)(3)) to acquire 90 percent or more of the voting shares of the successor by merger to The Union Bank, McEwen, Tennessee ("Bank").

The bank into which Bank will merge has no significance except as a means of acquiring the voting shares of Bank. Accordingly, the proposed acquisition of the shares of the successor organization is treated herein as the proposed acquisition of the shares of Bank.

Notice of the application affording opportunity for interested persons to submit comments and views has been given in accordance with section 3(b) of the Act. The time for filing comments and views has expired, and this Federal Reserve Bank has considered the application and all comments received in light of the factors set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Applicant, the fourth largest banking organization in Tennessee, controls seven banks (existing and approved) which have deposits of \$829.7 million or 7.8 percent of deposits in all commercial banks of the State. (All banking data are as of June 30, 1973, and reflect acquisitions and formations approved by the Board through May 1, 1974). Acquisition of Bank, having deposits of \$10.4 million would increase Applicant's share of Tennessee commercial bank deposits by less than one percent and would not change Applicant's rank in size. No undue concentration of banking resources in Tennessee would result.

Applicant is seeking to make its initial entry into the Humphreys County banking market which is located in the western portion of Tennessee. The two banks in the market hold \$22.9 million in deposits. Applicant, in acquiring Bank, will control the smaller of these banks, with deposits of \$10.4 million or 45.4 percent of total commercial bank deposits in the market.

Applicant's closest subsidiary bank is the Camden, Tennessee, office of Commerce Union Bank, Nashville, Tennessee,

² The Metropolitan New York banking market is approximated by the five boroughs of New York City and Nassau, Westchester, Putnam, Rockland and western Suffolk Counties in New York State; northern Bergen and eastern Hudson Counties in New Jersey; and southwestern Fairfield County in Connecticut.

located 19 miles west of Bank and in an adjoining market. No competition currently exists between Applicant's present subsidiaries and Bank, and it is not likely that significant future competition would develop between them because of the natural barrier presented by the Tennessee River between Bank and Camden, and Tennessee's laws restricting branching to the county in which the main office is located. The acquisition would have no adverse competitive effects.

Financial and managerial resources and prospects of Applicant, its subsidiaries and Bank are considered to be generally satisfactory in light of Applicant's commitment to increase equity capital in Bank; future prospects appear favorable. The proposed affiliation with Applicant will enable Bank to improve the quality of the banking services it is currently providing as well as to provide, as needed, other banking services not presently available, such as factoring and investment management services. Considerations relating to convenience and needs of the community to be served lend some weight toward approval of the application. It is the Federal Reserve Bank's judgment that consummation of the proposed transaction would be in the public interest and that the application should be approved.

On the basis of the record, the application is approved for the reasons summarized above. The transaction shall not be consummated (a) before the thirtieth calendar day following the effective date of this Order or (b) later than three months after that date, unless such period is extended for good cause by the Board, or by the Federal Reserve Bank of Atlanta pursuant to delegated authority.

By order of the Federal Reserve Bank of Atlanta acting under delegated authority for the Board of Governors of the Federal Reserve System, effective June 11, 1974.

[SEAL]

KYLE K. FOSSUM,
First Vice President.

[FR Doc.74-14365 Filed 6-21-74;8:45 am]

TEXAS COMMERCE BANCSHARES, INC.

Order Approving Acquisition of Bank

Texas Commerce Bancshares, Inc., Houston, Texas, a bank holding company within the meaning of the Bank Holding Company Act, has applied for the Board's approval under section 3(a)(3) of the Act (12 U.S.C. 1842(a)(3)) to acquire 100 percent of the voting shares, less directors' qualifying shares, of the successor by merger to Guaranty National Bank and Trust of Corpus Christi, Corpus Christi, Texas ("Bank"). The Bank into which Bank is to be merged has no significance except as a means to facilitate acquisition of the voting shares of Bank. Accordingly, the proposed acquisition of the successor organization is treated herein as the proposed acquisition of the shares of Bank.

Notice of the application, affording opportunity for interested persons to sub-

mit comments and views, has been given in accordance with section 3(b) of the Act. The time for filing comments and views has expired, and none have been timely received. The Federal Reserve Bank of Dallas, acting pursuant to delegated authority for the Board, has considered the application in light of the factors set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

Applicant, the fourth largest multi-bank holding company in Texas, presently controls fifteen banks with aggregate deposits of approximately \$1,787 million, representing 5.14 percent of the total commercial bank deposits in Texas.¹ Approval of the present acquisition would not produce a significant increase in the concentration of banking resources in Texas.

Bank is situated in Corpus Christi, Texas, within the banking market area approximated by the Corpus Christi SMSA. Bank has deposits of \$28.7 million, representing a 4.6 percent share of market deposits, and is the fourth largest of 26 banks in the market. Approval of the application would have no adverse effect on competition. The proposed transaction represents Applicant's initial entry into the market, and Applicant's nearest subsidiary is located in Houston some 210 miles to the northeast. There is no substantial existing competition between Bank and any of Applicant's banking subsidiaries, nor is there a reasonable probability of such substantial competition developing in the future. In view of the distances involved and Texas' prohibition of branch banking. Removal of Bank as an independent bank or as a potential vehicle for entry into the market would not have an adverse effect on potential competition in view of the existence of several remaining banks which could serve as means of entry for other holding companies. Bank's relatively small size, and the low degree of concentration of deposits in the market.

The financial and managerial resources and future prospects of Applicant, its subsidiaries, and Bank are regarded as generally satisfactory and consistent with approval. Although there is no evidence in the record that the major banking needs of the community are not adequately being served, considerations related to the convenience and needs of the community to be served lend weight toward approval. The relationship between Applicant and Bank will result in Bank's increased ability to compete more effectively for construction and real estate loans and to strengthen international banking, trust and investment

¹ All deposit figures are as of June 30, 1973, and bank holding company statistics reflect holding company formations and acquisitions approved by the Board of Governors to the date of March 1, 1974. Subsequent to the latter date the Board, on May 15, 1974, approved Applicant's proposed acquisition of Southeast Bank, Houston, Texas. Additionally, on May 22, 1974, the Federal Reserve Bank of Dallas, acting pursuant to delegated authority for the Board, approved Applicant's proposed acquisition of Westwood Commerce Bank, Houston, Texas, a proposed new bank.

services offered to Bank's customers. It is the judgment of the Federal Reserve Bank of Dallas that the proposed acquisition is in the public interest and that the application should be approved.

On the basis of the record as summarized above, the Federal Reserve Bank of Dallas approves the application, provided that the transaction shall not be consummated (a) before the thirtieth calendar day following the effective date of this Order or (b) later than three months after the effective date of this Order, unless such period is extended for good cause by the Board or by the Federal Reserve Bank of Dallas pursuant to delegated authority.

By order of the Federal Reserve Bank of Dallas, acting pursuant to delegated authority for the Board of Governors of the Federal Reserve System, effective June 11, 1974.

[SEAL]

ROBERT H. BOYKIN,
Secretary.

[FR Doc.74-14366 Filed 6-21-74;8:45 am]

UNITED BANKS OF WISCONSIN, INC.

Acquisition of Bank

United Banks of Wisconsin, Inc., Madison, Wisconsin, has applied for the Board's approval under section 3(a)(3) of the Bank Holding Company Act (12 U.S.C. 1842(a)(3)) to acquire 80 percent or more of the voting shares of Prairie State Bank, Sun Prairie, Wisconsin. The factors that are considered in acting on the application are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application may be inspected at the office of the Board of Governors or at the Federal Reserve Bank of Chicago. Any person wishing to comment on the application should submit his views in writing to the Secretary, Board of Governors of the Federal Reserve System, Washington, D.C. 20551, to be received not later than July 15, 1974.

Board of Governors of the Federal Reserve System, June 14, 1974.

[SEAL]

THEODORE E. ALLISON,
Assistant Secretary of the Board.

[FR Doc.74-14367 Filed 6-21-74;8:45 am]

INTERIM COMPLIANCE PANEL (COAL MINE HEALTH AND SAFETY)

PECCO COAL CO., INC.

Applications for Renewal Permits, Electric Face Equipment Standard; Notice of Opportunity for Public Hearing

Applications for Renewal Permits for Noncompliance with the Electric Face Equipment Standard prescribed by the Federal Coal Mine Health and Safety Act of 1969 have been received for items of equipment in underground coal mines as follows:

ICP Docket No. 4193-000, PECCO COAL COMPANY, INC.

Mine No. 4, Mine ID No. 15 04236 0

Belfry, Kentucky,

ICP Permit No. 4193-001 (Joy Cutting Machine, Ser. No. 97).

ICP Permit No. 4193-003 (Porter Battery Lizard, Ser. No. 12).

In accordance with the provisions of 30 CFR 504.7(b), notice is hereby given that requests for public hearing as to an application for a renewal permit may be filed within 15 days after publication of this notice. Requests for public hearing must be filed in accordance with 30 CFR Part 505 (35 FR 11296, July 15, 1970), as amended, copies of which may be obtained from the Panel upon request.

A copy of each application is available for inspection and requests for public hearing may be filed in the office of the Correspondence Control Officer, Interim Compliance Panel, Room 800, 1730 K Street NW., Washington, D.C. 20006.

GEORGE A. HORNBECK,
Chairman,
Interim Compliance Panel.

JUNE 18, 1974.

[FR Doc.74-14315 Filed 6-21-74;8:45 am]

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice 74-38]

APPLIED MAGNETICS CORP.

Notice of Intent to Grant Exclusive Patent License

Notice is hereby given of intent to grant to Applied Magnetics Corporation, Goleta, California, an exclusive, revocable license to practice the invention described in U.S. Patent No. 3,666,631 for "Bacteria Contamination Monitor", issued on May 30, 1972 to the Administrator of the National Aeronautics and Space Administration on behalf of the United States of America. The proposed exclusive license will be for a limited number of years and will contain appropriate terms and conditions to be negotiated in accordance with the NASA Patent Licensing Regulations, 14 CFR 1245.2, as revised April 1, 1972. NASA will grant the exclusive license unless, on or before August 23, 1974, the Chairman, Inventions and Contributions Board, NASA, Washington, DC, 20546, receives in writing any of the following, together with supporting documentation: (i) a statement from any person setting forth reasons why it would not be in the best interest of the United States to grant the proposed exclusive license; or (ii) an application for a nonexclusive license under such invention, in accordance with § 1245.206(b) in which applicant states that he has already brought or is likely to bring the invention to practical application within a reasonable period. The Board will review all written responses to the Notice and then recommend to the Administrator whether to grant the exclusive license.

Dated: June 14, 1974.

R. TIERNEY JOHNSON,
General Counsel.

[FR Doc.74-14374 Filed 6-21-74;8:45 am]

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

EXPANSION ARTS ADVISORY PANEL

Notice of Meeting

Pursuant to sec. 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), notice is hereby given that a meeting of the Expansion Arts Advisory Panel to the National Council on the Arts will be held at 9:00 a.m. on July 1, 9:00 a.m. July 2, and 9:00 a.m. July 3, 1974, in the Puerto Rico Sheraton in San Juan, Puerto Rico.

A portion of this meeting will be open to the public on July 1 and 2 from 9 a.m. to 1 p.m. on a space available basis. Accommodations are limited. During the open session reports on Expansion Arts Film, Tour-Events, an open policy discussion, and other program development reports will be discussed.

The remaining sessions of this meeting, July 1, July 2, from 1 to 5:30 p.m., and July 3, 1974, are for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the FEDERAL REGISTER of January 10, 1973, these sessions, which involve matters exempt from the requirements of public disclosure under the provisions of the Freedom of Information Act (5 U.S.C. 552(b) (4) and (5)), will not be open to the public.

Further information with reference to this meeting can be obtained from Mrs. Luna Diamond, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 382-5871.

EDWARD M. WOLFE,
Administrative Officer, National
Endowment for the Arts,
National Foundation on the Arts
and the Humanities.

[FR Doc.74-14347 Filed 6-21-74;8:45 am]

LITERATURE ADVISORY PANEL

Notice of Meeting

Pursuant to Sec. 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), notice is hereby given that a closed meeting of the Literature Advisory Panel to the National Endowment for the Arts will be held at 9:00 a.m. on July 9, 1974, in the St. Moritz Hotel in New York City.

This meeting is for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the

FEDERAL REGISTER of January 10, 1973, this meeting, which involves matters exempt from the requirements of public disclosure under the provisions of the Freedom of Information Act (5 U.S.C. 552(b) (4), (5), and (6)), will not be open to the public.

Further information with reference to this meeting can be obtained from Mrs. Luna Diamond, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 382-5871.

EDWARD M. WOLFE,
Administrative Officer, National
Endowment for the Arts,
National Foundation on the
Arts and the Humanities.

[FR Doc.74-14348 Filed 6-21-74;8:45 am]

OFFICE OF MANAGEMENT AND BUDGET

CLEARANCE OF REPORTS

List of Requests

The following is a list of requests for clearance of reports intended for use in collecting information from the public received by the Office of Management and Budget on June 19, 1974 (44 U.S.C. 3509). The purpose of publishing this list in the FEDERAL REGISTER is to inform the public.

The list includes the title of each request received; the name of the agency sponsoring the proposed collection of information; the agency form number, if applicable; the frequency with which the information is proposed to be collected; the name of the reviewer or reviewing division within OMB, and an indication of who will be the respondents to the proposed collection.

The symbol (x) identifies proposals which appear to raise no significant issues, and are to be approved after brief notice through this release.

Further information about the items on this Daily List may be obtained from the Clearance Office, Office of Management and Budget, Washington, D.C. 20503 (202-395-4529).

NEW FORMS

FEDERAL ENERGY OFFICE

Refiner-Importer Report of Sales of Motor Gasoline: Form -----, Single time, Weiner, Petroleum refining Cos. and Petroleum importers.

GENERAL SERVICES ADMINISTRATION

Bidder's Mailing List Application: Form GSA R4-1616, Annual, Lowry, Prospective bidders in Region 4.

Bidder's Mailing List Review: Form R4-1618, Annual, Lowry, Prospective construction contractors.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education: Program Operations Report, Veterans' Cost-of-Instruction Payments to Institutions (Sec. 420, Title IV-A, P.L. 89-329, as Amended), Form OE 269-2, Annual, Lowry, Postsecondary institutions.

DEPARTMENT OF THE INTERIOR

National Park Service: Roadside Questionnaire(s), Great Smoky Mountains National Park Visitor Survey, Form -----, Single time, Planchon, Visitors to Great Smoky Mountains National Park.

REVISIONS

VETERANS ADMINISTRATION

Conversion Information: Form FL 29-165, Occasional, Caywood, Insured veterans.

EXTENSIONS

ACTION

ACTION Request for Information: Form A-16, Semiannual, Evinger, Individuals.

PHILLIP D. LARSEN,

Budget and Management Officer.

[FR Doc. 74-14470 Filed 6-21-74; 8:45 am]

SMALL BUSINESS ADMINISTRATION

[License No. 05/05-0099]

NORTH STAR VENTURES, INC.

Filing of Application for Approval of Conflict of Interest Transaction

Notice is hereby given that North Star Ventures, Inc. (North Star), 2300 Northwestern Financial Center, 7900 Xerxes Avenue, S., Minneapolis, Minnesota 55431, a Federal licensee under the Small Business Investment Act of 1958, as amended (Act), has filed an application pursuant to section 107.1004 of the regulations governing small business investment companies (13 CFR 107.1004 (1974)), for an exemption from the provisions of the conflict of interest regulation.

The exemption, if granted, will permit North Star to purchase from Mr. Gerald Rauenhorst \$200,000 of the \$485,000 of Four-Phase Systems, Inc., 9 percent convertible subordinated notes, due December 1, 1983, currently held by Mr. Rauenhorst. Mr. Rauenhorst is the president, director and sole shareholder of North Star.

Information provided by the applicant in connection with this application indicates that:

1. In November, 1973, Mr. Rauenhorst made a commitment to purchase \$285,000 of a proposed offering of 9 percent Convertible Subordinated Notes, due December 1, 1983, of Four-Phase Systems, Inc. This offering was initially made known to Mr. Rauenhorst through a small business investment company (SBIC).

2. Prior to the December 11, 1973, closing date, Mr. Rauenhorst was advised that he would be able to purchase notes in the amount of \$285,000 as he had tentatively committed. At the same time, Mr. Rauenhorst was advised that one or more of the prospective SBIC participants in the current offering and the underwriters were seeking investors to take additional Notes.

3. Knowing that the preparation of an application for the formation and licensing of an SBIC (North Star) was in process and that certain qualified investments made in anticipation of the actual licensing of an SBIC might be considered as qualified capital of the new SBIC, Mr. Rauenhorst agreed to increase his commitment by \$200,000.

4. On December 11, 1973, the closing date, Mr. Rauenhorst acquired \$485,000 of the

Four-Phase Systems, Inc. 9 percent Convertible Subordinated Notes, due December 1, 1983.

5. The applicant was assured that the borrower was a qualified SBIC borrower, and Mr. Rauenhorst's increased commitment was made to assure adequate funds to the borrower and in anticipation of it being transferred to the applicant when licensed.

Pursuant to paragraphs (a) and (b) of the definition of "Associate of a Licensee" in section 107.3 of the regulations, Mr. Rauenhorst is considered to be an associate of North Star. As such, the transaction will require an exemption pursuant to section 107.1004(b) (4) of the regulations.

Notice is hereby given that any person may, no later than fifteen (15) days from the date of the publication of this notice, submit to the Small Business Administration (SBA), in writing, relevant comments on the proposed transaction. Any such communications should be addressed to: Associate Administrator for Finance and Investment, Small Business Administration, 1441 "L" Street NW., Washington, D.C. 20416.

A copy of this notice shall be published in a newspaper of general circulation in Minneapolis, Minnesota.

Dated: June 13, 1974.

JAMES THOMAS PHELAN,
Deputy Associate Administrator
for Investment.

[FR Doc. 74-14344 Filed 6-21-74; 8:45 am]

INTERSTATE COMMERCE COMMISSION

IRREGULAR-ROUTE MOTOR COMMON CARRIERS OF PROPERTY

Elimination of Gateways

JUNE 19, 1974.

The following letter-notices of proposals to eliminate gateways for the purpose of reducing highway congestion, alleviating air and noise pollution, minimizing safety hazards, and conserving fuel have been filed with the Interstate Commerce Commission under the Commission's Gateway Elimination Rules (49 CFR 1065(a)), and notice thereof to all interested persons is hereby given as provided in such rules.

An original and two copies of protests against the proposed elimination of any gateway herein described may be filed with the Interstate Commerce Commission on or before July 5, 1974. A copy must also be served upon applicant or its representative. Protests against the elimination of a gateway will not operate to stay commencement of the proposed operation.

Successively filed letter-notices of the same carrier under these rules will be numbered consecutively for convenience in identification. Protests, if any, must refer to such letter-notices by number.

No. MC-730 (Sub-No. E59), filed May 30, 1974. Applicant: PACIFIC INTERMOUNTAIN EXPRESS CO., P.O. Box 638, Oakland, Calif. 94612. Applicant's representative: R. N. Cooledge (same as above). Authority sought to operate as a

common carrier, by motor vehicle, over irregular routes, transporting: *Liquid chemicals*, and acids, in bulk, in tank vehicles, from Henderson, Nev., to points in Texas (except points in El Paso, Hudspeth, Culberson, Jeff Davis, and Presidio Counties). The purpose of this filing is to eliminate the gateway of points in Utah.

No. MC-5470 (Sub-No. E2), filed May 30, 1974. Applicant: TAJON, INC., R.D. 5, Box 146, Mercer, Pa. 16137. Applicant's representative: Mr. Patrick McEligat, Rea, Cross & Knebel, 700 World Center Building, 918 Sixteenth St. NW., Washington, D.C. 20006. Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Ferro alloys*, in bulk, in dump vehicles, from Calvert City, Ky., to points in North Carolina on and east of U.S. Highway 52. The purpose of this filing is to eliminate the gateway of Alloy, W. Va.

No. MC-16682 (Sub-No. E2), (CORRECTION), filed May 13, 1974, published in the FEDERAL REGISTER June 10, 1974. Applicant: MURAL TRANSPORT INC., 2900 Review Avenue, Long Island City, N.Y. 11101. Applicant's representative: Robert L. Shapiro (same as above). This letter-notice was previously published as No. MC-16682 (Sub-No. E1). The authority sought remains as previously published. The purpose of this correction is to set forth the correct "E" number.

No. MC-51146 (Sub-No. E2) (CORRECTION), filed April 23, 1974, published in the FEDERAL REGISTER May 28, 1974. Applicant: SCHNEIDER TRANSPORT, INC., P.O. Box 2298, Green Bay, Wis. 54306. Applicant's representative: D. F. Martin (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting:

In proposal 8-B:

Paper and paper products (except commodities in bulk), from points in Wood, Portage, Marathon, Lincoln, and Oneida Counties, Wis., to points in Washington, Oregon, California, Nevada, Idaho, Utah, Arizona, Montana, Wyoming, Colorado, and New Mexico. The purpose of this corrected notice is to indicate that "New Mexico" and not "Mexico" was intended as a destination. The purpose of this filing is to eliminate the gateway of Marshfield, Wis.

In proposal 34:

Paper and paper products (except commodities in bulk), from Plymouth, N.C., to points in Washington, Oregon, California, Nevada, Arizona, Utah, Idaho, Montana, Wyoming, Colorado, New Mexico, North Dakota, South Dakota, Nebraska, Kansas, points in Texas on and west of a line extending from the Oklahoma-Texas State line southwest along U.S. Highway 377 to Del Rio, and thence west from Del Rio over un-numbered highway to the Mexican-United States International Boundary line, Oklahoma (except points south and east of a line commencing at the Texas-Oklahoma State line and extending

northeast along U.S. Highway 69 to the intersection of Interstate Highway 40, thence east along Interstate Highway 40 to the Oklahoma-Arkansas State line), Arkansas (except points east of a line commencing at the Oklahoma-Arkansas State line east along U.S. Highway 271 to the intersection of U.S. Highway 71, thence north along U.S. Highway 71 to the Arkansas-Missouri State line), and Missouri (except points east of a line commencing at the Arkansas-Missouri State line and thence north along U.S. Highway 67 to the intersection of U.S. Highway 50 Bypass, thence east on U.S. Highway 50 Bypass to the Mississippi River), shipments of pulpboard and fibreboard limited to movements in mixed loads with the commodities described above. The purpose of this corrected notice is to indicate the sought destination points in Texas. The purpose of this filing is to eliminate the gateway of Muncie, Ind.

In proposal 42:

(a) *Plywood and plywood products and plywood and plywood products combined with veneer and plastics, paneling, doors, and composition wood and composition wood products*, as are manufactured or distributed by manufacturers or converters of cellulose materials and products, and paper products from Marshfield, Wis., to points in Washington, Oregon, California, Idaho, Nevada, Utah, Colorado, Arizona, New Mexico, Montana (except points east of a line commencing at the Canadian-United States International Boundary line and extending south along Montana Highway 233, to the intersection of U.S. Highway 87, thence south along U.S. Highway 87 to the Montana-Wyoming State line), and Wyoming (except points east of U.S. Highway 87). (b) *Materials and supplies* used in the manufacture and distribution of the commodities described in (a) above, from points in the destination territory in (a) above to Marshfield, Wis. The purpose of this corrected notice is to show the complete commodity description. The purpose of this filing is to eliminate the gateway of Green Bay, Wis.

In proposal 46:

Paper and paper products (except commodities in bulk), from the plant and warehouse sites of the Weyerhaeuser Company, Crocker Technical Papers, Inc., and James River-Fitchburg, Inc. at Fitchburg, Mass., to points in Kentucky and Tennessee (except Memphis and points in its commercial zone as defined by the Commission), restricted against the transportation of pulpboard, pulpboard products, and waste paper to points in Kentucky.

In proposal 47:

Paper and paper products (except commodities in bulk), from the plant and warehouse sites of Weyerhaeuser Company, Miquon, Pa., and the Weyerhaeuser Company, Crocker Technical Papers, Inc., and James River-Fitchburg, Inc., at Fitchburg, Mass., to points in and west of North Dakota, South Dakota, Nebraska, Arkansas, and Mississippi.

In proposal 48:

Paper fiber shipping containers, from the plant and warehouse sites of the Weyerhaeuser Company at Delair and Barrington, N.J., to points in and west of North Dakota, South Dakota, Nebraska, Missouri, Arkansas, and Mississippi. The purpose of these corrected notices in proposals 46, 47, and 48 is to show the name change of some of the origin plants. The purpose of this filing of proposal 46 is to eliminate the gateway of Gallipolis, Ohio, and proposals 47 and 48, the gateway of Muncie, Ind.

No. MC-93980 (Sub-No. E1), (CORRECTION), filed April 22, 1974, published in the FEDERAL REGISTER June 10, 1974. Applicant: VANCE TRUCKING CO., INC., P.O. Box 1119, Henderson, N.C. 27536. Applicant's representative: N. P. Strause (same as above). This letter-notice was previously published as No. MC-93980 (Sub-No. E7). The authority sought remains as previously published. The purpose of this correction is to set forth the correct "E" number.

No. MC-111302 (Sub-No. E1), filed May 23, 1974. Applicant: HIGHWAY TRANSPORT, INC., P.O. Box 10470, Knoxville, Tenn. 37919. Applicant's representative: Clyde Carver (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Liquid chemicals* (except phosphatic food supplements), in bulk, in tank vehicles, from Tampa, Fla., to points in Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Mississippi, Missouri, Ohio, Wisconsin, Kansas, Nebraska, and West Virginia (except Parkersburg, W. Va.). The purpose of this filing is to eliminate the gateway of Knoxville, Tenn.

No. MC-111545 (Sub-No. E4), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities*, the transportation of which, because of size or weight, requires the use of special equipment (except such commodities to be used in, or in connection with, main or trunk pipelines), between points in Arizona, on the one hand, and, on the other, points in Missouri. The purpose of this filing is to eliminate the gateway of Kansas City, Mo.

No. MC-111545 (Sub-No. E5), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities*, the transportation of which, because of size or weight, requires the use of special equipment, between points in the Lower Peninsula of Michigan, on the one hand, and, on the other, points in Nebraska. The purpose of this

filing is to eliminate the gateway of Davenport, Iowa.

No. MC-111545 (Sub-No. E6), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines and commodities to be used in, or in connection with, main or trunk pipelines), the transportation of which, because of size or weight, requires the use of special equipment, between points in Arizona, on the one hand, and, on the other, points in North Carolina. The purpose of this filing is to eliminate the gateways of Fort Scott, Kans., and Charlotte, N.C.

No. MC-111545 (Sub-No. E7), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities* (except commodities used in, or in connection with, main or trunk pipelines), the transportation of which, because of size and weight, requires the use of special equipment, between points in Ohio, on the one hand, and, on the other, points in Utah. The purpose of this filing is to eliminate the gateways of Keokuk, Iowa, and Kansas City, Mo.

No. MC-111545 (Sub-No. E8), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities*, the transportation of which, because of size or weight, requires the use of special equipment, from points in Indiana to points in New Mexico. The purpose of this filing is to eliminate the gateways of Keokuk, Iowa, and Kansas City, Mo.

No. MC-111545 (Sub-No. E9), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, between points in Texas, on the one hand, and, on the other, points in Vermont. The purpose of this filing is to eliminate the gateways of (1) McAlester or Hugo, Okla., and (2) Rome or Ringgold, Ga.

No. MC-111545 (Sub-No. E10), filed May 19, 1974. Applicant: HOME

TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities*, the transportation of which, because of size or weight, requires the use of special equipment, between points in Arkansas, on the one hand, and, on the other, points in Minnesota. The purpose of this filing is to eliminate the gateway of Centerville, Iowa.

No. MC-111545 (Sub-No. E11), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities*, the transportation of which, because of size or weight, requires the use of special equipment (except agricultural machinery and implements, other than hand, as defined by the Commission), between the District of Columbia, on the one hand, and, on the other, points in Florida. The purpose of this filing is to eliminate the gateway of Florence, S.C.

No. MC-111545 (Sub-No. E13), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines and commodities to be used in, or in connection with, main or trunk pipelines), the transportation of which, because of size or weight, requires the use of special equipment, between the District of Columbia, on the one hand, and, on the other, points in Utah. The purpose of this filing is to eliminate the gateways of Ringgold, Ga., and Fort Scott, Kans.

No. MC-111545 (Sub-No. E14), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, between the District of Columbia, on the one hand, and, on the other, points in Texas. The purpose of this filing is to eliminate the gateways of Ringgold, Ga., and Hugo, Okla.

No. MC-111545 (Sub-No. E15), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to op-

erate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, between the District of Columbia, on the one hand, and, on the other, points in Oklahoma and Kansas. The purpose of this filing is to eliminate the gateway of Ringgold, Ga.

No. MC-111545 (Sub-No. E16), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, from the District of Columbia to points in New Mexico. The purpose of this filing is to eliminate the gateways of Ringgold, Ga., and Hugo, Okla.

No. MC-111545 (Sub-No. E17), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, between points in Delaware, on the one hand, and, on the other, points in Kansas and Oklahoma. The purpose of this filing is to eliminate the gateway of Ringgold, Ga.

No. MC-111545 (Sub-No. E18), filed May 19, 1974. Applicant: HOME TRANSPORTATION COMPANY, INC., P.O. Box 6426, Station A, Marietta, Ga. 30062. Applicant's representative: Robert E. Born (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Commodities* (except knitting machines), the transportation of which, because of size or weight, requires the use of special equipment, between points in Delaware, on the one hand, and, on the other, points in Texas. The purpose of this filing is to eliminate the gateways of Ringgold, Ga., and Hugo, Okla.

No. MC-114019 (Sub-No. E211), filed May 15, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *General commodities* (except those of unusual value, class A and B explosives, household goods as defined by the Commission, commodities in bulk and those injurious or contaminating to other lading); (1) between points in West Virginia on and west of a line extending from Interstate Highway 77 at

the West Virginia-Ohio State line to its junction with U.S. Highway 119 and U.S. Highway 119 to the West Virginia-Kentucky State line, on the one hand, and, on the other, points in Pennsylvania; (2) between points in West Virginia on and north of a line extending from West Virginia 69 at the West Virginia-Pennsylvania State line to its junction with West Virginia Highway 7 and West Virginia Highway 7 to the West Virginia-Ohio State line, and points on and west of West Virginia Highway 18 from the West Virginia-Ohio State line to its junction with U.S. Highway 50, on the one hand, and, on the other, to points in Pennsylvania on and east of U.S. Highway 219 extending from the Maryland-Pennsylvania State line near Salisbury, to Ebensburg, thence on and north of U.S. Highway 422 extending from Ebensburg to Portersville, thence on and east of U.S. Highway 19 extending from Portersville to Mercer, and thence on and north of U.S. Highway 62 extending from Mercer to the Pennsylvania-Ohio State line. The purpose of this filing is to eliminate the gateway of Lansing (Belmont County), Ohio.

No. MC-114019 (Sub-No. E212), filed May 15, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Iron and steel articles, lanterns, lamp burners, metal tubes, and bottle caps*. (1) from Sparrows Point and Baltimore, Md., New York, N.Y., and points within 30 miles of New York, N.Y., points in that part of New Jersey, Delaware, and Maryland, which are located within 30 miles of Philadelphia, Pa., points in that part of New York on and west of a line beginning at Windsdor Beach, and extending to Rochester, thence along U.S. Highway 15 to Wayland, thence along New York Highway 245 to Dansville, thence along New York Highway 36 to junction New York Highway 21, thence along New York Highway 21 to Andover, and thence along New York Highway 17 to the New York-Pennsylvania State line, to points in Pennsylvania, on and east of U.S. Highway 219 to its junction with Interstate Highway 80 and points on and south of Interstate Highway 80 to the Pennsylvania-Ohio border; (2) from points in West Virginia on and east of a line extending from U.S. Highway 250 to the Pennsylvania-West Virginia State line, south to its junction with U.S. Highway 19 and U.S. Highway 19 south to its junction with U.S. Highway 60 and U.S. Highway 60 south to the West Virginia-Virginia State line to Ft. Wayne, Auburn, and Huntington, Ind.; (3) from West Virginia points on and east of U.S. Highway 250 to its junction with U.S. Highway 33 and U.S. Highway 33 to the West Virginia-Virginia State line, to Louisville, Ky. The purpose of this filing is to eliminate the gateway of East Liverpool, Ohio.

No. MC-114019 (Sub-No. E213), filed May 15, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, in vehicles equipped with mechanical refrigeration, from Chicago, Ill., points in Indiana on and south of Indiana Highway 14, those in Ohio, Pennsylvania, West Virginia, and New York, and those in New Jersey in the New York, N.Y., and Philadelphia, Pa., commercial zone, as defined by the Commission to points in Minnesota. The purpose of this filing is to eliminate the gateway of Lafayette, Ind.

No. MC-114019 (Sub-No. E214), filed May 13, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Asphalt*, liquid or solid; *Boards*, fibreboard and/or pulpboard, impregnated with asphalt, painted or not painted; *Board*, wall, fibreboard, pulpboard, or strawboard, not impregnated with asphalt; *Caps*, roofing, tin; *Cement*, roofing; *Clamps*, metal; *Coating*, roof, having asbestos, pitch, tar, or rosin base; *Creosote*; *Fasteners*, metal; *Felts*, building or roofing, saturated or unsaturated; *Insulating material*, asbestos or felt paper; *Nails*; *Paint*, asphaltum; *Paint*, coat tar; *Paper*, building, roofing, or sheathing, saturated, unsaturated; *Pitch*, roofing; *Roofing*, composition or prepared; *Siding*, asphalt; *Shingles*, asphalt, asbestos, or composition; *Sheathing*; *Straps*, tin, with fasteners; *Tar*, roofing; from Sunbury, Pa., to points in Wisconsin, Iowa, Missouri, Illinois, points in Kentucky on and west of Kentucky State Highway 11, beginning at the Ohio-Kentucky State line to its junction with Kentucky State Highway 15, thence on and west of Kentucky State Highway 15, to its junction with Kentucky State Highway 160, thence on and west of Kentucky State Highway 160 to the Kentucky-Tennessee State line, and points in Indiana on and south of Interstate Highway 70, beginning at the Ohio-Indiana State line to its junction with U.S. Highway 35, thence on and south of U.S. Highway 35 to its junction with Indiana Highway 28, thence on and south of Indiana Highway 28, to its junction with Interstate Highway 65, thence on and west of Interstate Highway 65 to its junction with U.S. Highway 30 and points on and south of U.S. Highway 30 to the Illinois-Indiana State line. The purpose of this filing is to eliminate the gateway of Lockland, Ohio.

No. MC-114019 (Sub-No. E215), filed May 13, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought

to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Floor tile and materials and accessories* used in the installation of floor tile when moving with shipments of floor tile; (1) from Sparrows Point and Baltimore, Md., New York, N.Y., and points within 30 miles of New York, N.Y., points in that part of New Jersey, Delaware, and Maryland which are located within 30 miles of Philadelphia, Pa., points in that part of New York on and west of a line beginning at Windsors Beach, and extending to Rochester, thence along U.S. Highway 15 to Wayland, thence along New York Highway 245 to Dansville, thence along New York Highway 36 to junction New York Highway 21, thence along New York Highway 21 to Andover, and thence along New York Highway 17 to the New York-Pennsylvania State line, and points in Pennsylvania to those points in Illinois and Indiana (except Indianapolis), which are on and south of U.S. Highway 40, and those in Kentucky (except Louisville and Lexington), which are on and west of Interstate Highway 75 and points in Tennessee on and west of Interstate Highway 65; (2) from points in West Virginia on and north of U.S. Highway 33 to points in Michigan, Indiana (except Indianapolis and points within its commercial zone) and points in Illinois, on and south of U.S. Highway 40. The purpose of this filing is to eliminate the gateway of Hopetown, Ohio.

No. MC-114019 (Sub-No. E229), filed May 12, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen bakery products*, from points in New York and New Jersey within 40 miles of City Hall, New York, N.Y., to points in Kentucky and West Virginia. The purpose of this filing is to eliminate the gateway of Jersey City, N.J., and points in Adams or Franklin Counties, Pa.

No. MC-114019 (Sub-No. E233), filed May 17, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60624. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle over irregular routes, transporting: *Frozen fruits and frozen fruit juices*, in vehicles equipped with mechanical refrigeration, from points in Van Buren, Berrien, Cass, Kalamazoo, and St. Joseph Counties, Mich., to points in Oregon and Washington on and west of Interstate Highway 5. The purpose of this filing is to eliminate the gateway of Cleveland, Ohio.

No. MC-114019 (Sub-No. E234), filed May 22, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought

to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Citric acid*, in drums and packages, from Fieldsboro, N.J., to points in Iowa, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Colorado, and Wyoming; Bowling Green, Ky.; Nashville, Tenn., points in Delaware, Henry, Madison, Randolph and Wayne Counties, Ind., and points in Van Wert, Allen, Mercer, Auglaize, Shelby, Darke, Miami, Preble, Montgomery, Butler, Warren, Hamilton, and Clermont Counties, Ohio, restricted to shipments moving from, to or between warehouses, and wholesale, retail, or chain outlets of food business houses, or when moving from, to, or between food processing, plants, or warehouse or other facilities of such plants. The purpose of this filing is to eliminate the gateway of Utica and Chicago, Ill., Witta, Jeffersonville, and Boundry City, Ind.

No. MC-114019 (Sub-No. E235), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Packaginghouse products and by-products*, between Kansas City and Wichita, Kans., Kansas City, St. Joseph, South St. Joseph, and St. Louis, Mo., Des Moines and Sioux City, Iowa, and Omaha and South Omaha, Nebr., on the one hand, and, on the other, points in New York, New Jersey, Rhode Island, Connecticut, and Massachusetts. The purpose of this filing is to eliminate the gateways of Chicago, Ill., and Cleveland, Ohio.

No. MC-114019 (Sub-No. E236), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, meat by-products, dairy products, and edible articles distributed by meat packinghouses*, as described in Sections A, B, and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates* 61 M.C.C. 209, in mechanically refrigerated vehicles, from Cedar Rapids, Iowa, to points in Maine, New Hampshire, Vermont, Rhode Island, Virginia, West Virginia, Kentucky on and east of Kentucky Highway 55 from the Indiana-Kentucky State line over Kentucky Highway 55 to the junction of U.S. Highway 127, thence over U.S. Highway 127 to the Kentucky-Tennessee State line, and Columbus, Cincinnati, Dayton, Mansfield, Massillon, Akron, Canton, Wooster, Ashland, Gallon, Lima, Findlay, Toledo, Sandusky, Lorain, Elyria, Avon, Cleveland, Marion, and Bryan, Ohio. The purpose of this filing is to eliminate the gateway of Defiance or Union City, Ohio.

No. MC-114019 (Sub-No. E237), filed May 20, 1974. Applicant: MIDWEST

EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes transporting: (1) *Meats, meat products, meat by-products, dairy products, and edible articles distributed by meat packinghouses* as defined by the Commission, from St. Louis, Mo., to points in Pennsylvania (except points on and south of U.S. Highway 22, and on and west of U.S. Highway 219 and Philadelphia and Scranton); and (2) *Meats, meat products, meat by-products, and articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except hides in commodities in bulk), from St. Louis, Mo., to points in Maine, New Hampshire, Vermont, Delaware (except Wilmington), Maryland (except Baltimore and points on and west of U.S. Highway 15), and points in Virginia on and east of U.S. Highway 250 from the West Virginia-Virginia State line to junction U.S. Highway 15, thence U.S. Highway 15 to the Virginia-North Carolina State line. The purpose of this filing is to eliminate the gateway of Pittsburgh, Pa.

No. MC-114019 (Sub-No. E238), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Asbestos*, scrap; *asphalt*, liquid or solid, in packages; *automobile body panels*, fibreboard, not covered, with cut-outs, or of shape other than rectangular, painted or not painted, loaded on platforms or wooden skids; *blocks*, mastic (asphalt flooring, compound); *board*, fibreboard and pulpboard (impregnated with asphalt), in rectangular shapes, without cut-outs painted or not painted, loaded on wooden platform or wooden skids; *boards*, asphalt composition, paving, or flooring; *boards*, wall, asbestos; *board*, wall, fibreboard, pulpboard, or strawboard; *burlap*, bituminized, in packages; *caps*, roofing, tin, in packages; *carpet lining*, paper, including felt paper palin, other than indented; *cement*, asbestos, in packages; *cement*, composition or asbestos; *cement*, furnace, in packages; *cement*, tile, liquid; *cement*, roofing, in packages; *cement*, magnesia; *clamps*, metal in packages; *clips*, metal; *cloth*, cotton, saturated with asbestos; *coating*, roof, having asbestos, pitch tar or rosin base, in packages; *conduits*, bituminized fibre; *creosote*, in packages; *eave filler strips*, asphalt composition; *fasteners*, metal, in packages; *felt*, building or roofing, saturated, or unsaturated; *felts*, paper fabrics saturated, and/or coated; *flashing blocks*, asphalt composition; *insulating material*, asbestos, or felt paper, in forms or shapes other than solid flat blocks or solid flat sheets; *mill-board*, asbestos, in packages; *mineral*

wool (rock or slag wool), metal reinforced, in packages; *mineral wool* (rock or slag wool), plain saturated, with or without paper backs, in batts or other than batts, in packages; *mortar or cement*, high temperature bonding, N.O.I. in packages; *nails*, in packages; *packing*, asbestos, braid or wick, in packages; *paint*, asphaltum, in packages; *paint*, coal tar, in packages; *paper*, asbestos, and/or other than asbestos, building roofing or sheathing, plain or saturated; *paper*, building, roofing or sheathing saturated or unsaturated; *paving joints*, expansion (asphalt or asphalt base); *paving joints*, expansion, (rubber composition); *pipe*, cement, containing asbestos fibre; *pitch*, roofing, in packages; *planks*, asphalt composition, paving or flooring; *ridge rolls*, asbestos, in packages; *roofing*, composition or prepared; *roofing*, or sheathing, asbestos hard, corrugated; *sheathing*, asbestos, hard flat, ornamented or not ornamented, polished or shaped, with or without fibre-board center or back, and/or air-cell paper center; *shingles*, asbestos, hard, (artificial stone shingles or slate), in bundles; *shingles*, asbestos; *shingles*, asphalt asbestos or composition; *sheathing*; *shorts*, asbestos; *siding*, asbestos; *siding*, asphalt; *slabs*, concrete, building of roofing; *straps*, tin, with fasteners, in packages; *tar*, roofing, in packages; *tile*, asphalt, composition, floor; and *wood preservatives*, in packages, from Chicago Heights, Ill. to points in Colorado, Kansas, North Dakota, South Dakota, points in Nebraska (except those in Dodge, Saunders, Washington, Douglas, and Sarpy Counties) points in that part of Minnesota, on and north of a line beginning at the Iowa-Minnesota State line and extending north along Minnesota Highway 15 to junction Minnesota Highway 60, thence east along Minnesota Highway 60 to Minnesota Highway 58, thence north along Minnesota Highway 58 to Redwing, Minn., and to points in Kentucky and Tennessee. The purpose of this filing is to eliminate the gateway of North Judson, Ind.

No. MC-114019 (Sub-No. E239), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: (1) *Asphalt and composition roofing products, composition boards and insulating materials* (except commodities in bulk) from Edgewater and Carteret, N.J.; Pittston, Pa., the plantsite and facilities of Celotex Corporation at or near Philadelphia and Sunbury, Pa., and New York, N.Y., to points in Colorado, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Wisconsin, and Missouri, restricted to the transportation of traffic moving in mixed loads with the commodities and from the named origins. (2) *Composition boards*, from Deposit, N.Y. to points in Colorado, North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Wisconsin, and Missouri. The purpose of this filing is to

eliminate the gateway of North Judson, Ind.

No. MC-114019 (Sub-No. E240), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Dairy products*, as classified in the appendix to the report in *Modification of Permits of Motor Contract Carriers of Packinghouse Products*, 46 M.C.C. 23, between points in Minnesota and those in Missouri on and west of U.S. Highway 54 from the Illinois-Missouri State line to Jefferson City, thence U.S. Highway 63 to the Missouri-Arkansas State line on the one hand, and, on the other, points in New York, New Jersey, Rhode Island, Connecticut, and Massachusetts, restricted to the transportation of shipments moving from, to, or between food processing plants, or warehouses or other facilities of such plants. The purpose of this filing is to eliminate the gateway of Muscatine, Iowa.

No. MC-114019 (Sub-No. E241), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Asphalt*, liquid or solid; *Boards*, fibreboard and/or pulpboard, impregnated with asphalt, painted or not painted; *Board*, wall, fibreboard, pulpboard, or strawboard, not impregnated with asphalt; *Caps*, roofing, tin; *Cement*, roofing; *Clamps*, metal; *Coating*, roof, having asbestos, pitch, tar, or rosin base; *Creosote*; *Fasteners*, metal; *Felts*, building or roofing, saturated or unsaturated; *Insulating materials*, asbestos or felt paper; *Nails*; *Paint*, asphaltum; *Paint*, coal tar; *Paper*, building, roofing, or sheathing, saturated, unsaturated; *Pitch*, roofing; *Roofing*, composition or prepared; *Siding*, asphalt; *Shingles*, asphalt, asbestos, or composition; *Sheathing*; *Straps*, tin, with fasteners; and *Tar*, roofing; from Chicago Heights, Ill., to points in Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, New Jersey, Delaware, points in that part of New York, on and east of a line beginning at the New York-Pennsylvania State line, thence north along New York Highway 14 to junction New York Highway 13, thence north along New York Highway 13 to junction U.S. Highway 11, thence north along U.S. Highway 11, to New York Highway 13, thence west along New York Highway 13 to Port Ontario, points in that part of Maryland, Virginia, and North Carolina, on and east of a line beginning at the Pennsylvania-Maryland State line and extending south along U.S. Highway 81 to junction U.S. Highway 70, thence south along U.S. Highway 70 to junction U.S. Highway 15, thence south along U.S. Highway 15 to junction U.S. Highway 17, thence south along U.S.

Highway 17 to junction U.S. Highway 95, thence south along U.S. Highway 95 to junction North Carolina Highway 58, thence south along North Carolina Highway 58 to Onslow Bay, and the District of Columbia. The purpose of this filing is to eliminate the gateway points in Ohio, and Sunbury, Pa.

No. MC-114019 (Sub-No. E242), filed May 20, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, meat by-products, and articles*, distributed by meat packinghouses as classified in the appendix to the report in *Modification of Permit of Motor Contract Carriers of Packinghouse Products*, 46 M.C.C. 23, between points in New York, Rhode Island, Connecticut, and Massachusetts, on the one hand, and, on the other, points in West Virginia in and west of Hancock, Brooke, Ohio, Marshall, Wetzel, Doddridge, Gilmer, Broxton, Clay, Kanawha, Boone, Logan, and Mingo Counties. The purpose of this filing is to eliminate the gateway of Youngstown, Ohio.

No. MC-114019 (Sub-No. E244), filed May 12, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, in vehicles equipped with mechanical refrigeration, from points in New York and New Jersey within 40 miles of City Hall, New York, N.Y., to points in Michigan and Kentucky, and those in West Virginia on and west of Interstate Highway 77 to its junction with U.S. Highway 119 and U.S. Highway 119 to the West Virginia-Kentucky State line. The purpose of this filing is to eliminate the gateways of Jersey City, N.J., and Pittsburgh, Pa.

No. MC-114019 (Sub-No. E247), filed May 17, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat by-products, and articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except hides), in mechanically refrigerated vehicles, from the plant site of Missouri Beef Packers, Inc., at or near Phelps City, Mo., to points in Kentucky on and east of Kentucky Highway 61. The purpose of this filing is to eliminate the gateway of Union City, Ohio.

No. MC-114019 (Sub-No. E248), filed May 13, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000

South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods, and foods not frozen* when transported in the same vehicle with frozen foods, in vehicles equipped with mechanical refrigeration, from Cleveland, Ohio, to Nashville, Tenn., restricted to the transportation of shipments moving from, to, or between warehouses or other facilities of wholesale food business houses. The purpose of this filing is to eliminate the gateway of Louisville, Ky.

No. MC-114019 (Sub-No. E249), filed May 13, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Glassware and paper cartons* used in the packing and shipping of glass containers, from Sparrows Point and Baltimore, Md., New York, N.Y., and points within 30 miles of New York, N.Y., points in that part of New Jersey, Delaware, and Maryland, which are located within 30 miles of Philadelphia, Pa., and points in West Virginia, on and north of U.S. Highway 50, and Pennsylvania on and south of U.S. Highway 22 to points in Indiana, the Lower Peninsula of Michigan, and those points in Kentucky on and west of Interstate Highway 65, points in Missouri, Wisconsin, Illinois, and Iowa. The purpose of this filing is to eliminate the gateways of Zanesville, Ohio, and Richmond, Ind.

No. MC-114019 (Sub-No. E250), filed May 13, 1974. Applicant: MIDWEST EMERY FREIGHT SYSTEM, INC., 7000 South Pulaski Road, Chicago, Ill. 60629. Applicant's representative: Arthur J. Sibik (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods, and foods not frozen* when transported in the same vehicle with frozen foods, in vehicles equipped with mechanical refrigeration, from Sparrows Point and Baltimore, Md., points in Connecticut, within 30 miles of New York, N.Y., those in New Jersey within 40 miles of City Hall, New York, N.Y., points in that part of New Jersey, Delaware, and Maryland, within 30 miles of Philadelphia, Pa., and those in West Virginia to points in Iowa, Nebraska, South Dakota, and North Dakota. The purpose of this filing is to eliminate the gateway points in Ohio and Chicago, Ill.

No. MC-117119 (Sub-No. E38), filed May 24, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting *Frozen foods*, from points in California north of the southern boundaries of Santa Cruz, Santa Clara, Merced, Mariposa, Tu-

lume, and Mono Counties to Fort Smith, Little Rock, and Russellville, Ark., points in that part of Arkansas on and north of Interstate Highway 40, and Memphis, Tenn. The purpose of this filing is to eliminate the gateway of Franklin, Idaho.

No. MC-117119 (Sub-No. E37), filed May 24, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in that part of California north of the southern boundaries of Santa Cruz, Santa Clara, Merced, Mariposa, Tuolumne, and Mono Counties to points in Kansas and Missouri. The purpose of this filing is to eliminate the gateway of Franklin, Idaho.

No. MC-117119 (Sub-No. E90), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat by-products, and edible articles* distributed by meat packinghouses, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, and dairy products (except commodities in bulk, in tank vehicles), in vehicles equipped with mechanical refrigeration, (a) from points in Kenosha, Racine, Milwaukee, Waukesha, Washington, Ozaukee, Sheboygan, Manitowoc, Brown, and Kewaunee Counties, Wis., to points in Texas on and south of a line beginning at the Arkansas-Texas State line at Texarkana and extending along Interstate Highway 30 to Dallas, thence along U.S. Highway 80 to Fort Worth, thence along U.S. Highway 180 to the New Mexico-Texas State line, to points in New Mexico on and south of a line beginning at the New Mexico-Texas State line, to points in New Mexico on and south of a line beginning at the New Mexico-Texas State line and extending along U.S. Highway 82 to Las Cruces thence along U.S. Highway 70-80 to the Arizona-New Mexico State line, to points in Cochise, Pima, and Yuma Counties, Ariz., and to points in Imperial, San Diego, Riverside, Orange, and Los Angeles Counties, Calif.; (b) from points in Walworth, Rock, Green, Dane, Jefferson, Calumet, Dodge, Columbia, Fond du Lac, Winnebago, Outagamie, and Green Lake Counties, Wisconsin to points in Texas on, south and east of a line beginning at the Arkansas-Texas State line at Texarkana and extending along Interstate Highway 30 to Dallas, thence along U.S. Highway 80 to Pecos, thence along Texas Highway 17 to Marfa, thence along U.S. Highway 67 to Presidio and the United States-Mexico International Boundary line. The purpose of this filing is to eliminate the gateway of Blytheville, Ark., and Jackson, Tenn.

No. MC-117119 (Sub-No. E91), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in Illinois on and south of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois Highway 140 to junction Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Mound City) to points in Arizona, California, Nevada, and New Mexico. The purpose of this filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E94), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned or preserved foodstuffs*, from points in that part of Illinois on and south of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois Highway 140 to junction Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Mound City) to points in Idaho, Oregon, Utah, Washington, Montana, Wyoming, Nebraska, and Kansas (except points in Cherokee County). The purpose of this filing is to eliminate the gateway of California, Mo.

No. MC-117119 (Sub-No. E95), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Foodstuffs* (except dairy products, and except commodities in bulk, in tank vehicles), from points in Illinois on and south of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois State Highway 140 to junction Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Mound City) to points in Idaho and Utah. The purpose of his filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E102), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in Lower Peninsula of Michigan to points in Arizona, California, New Mexico, and Las Vegas, Reno, and Carson City, Nev. The purpose of this filing is to eliminate the gateway of Fayetteville, Ark.

No. MC-117119 (Sub-No. E103), filed May 15, 1974. Applicant: WILLIS SHAW

FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from East St. Louis, Ill., to points in Arizona, California, Nevada, and New Mexico. The purpose of this filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E105), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from East St. Louis, Ill., to points in Texas and points in that part of Oklahoma south and west of a line beginning at the Arkansas-Oklahoma State line and extending westward along Oklahoma Highway 33 to junction U.S. Highway 177, thence along U.S. Highway 177 to the Oklahoma-Kansas State line. The purpose of this filing is to eliminate the gateway of Van Buren, Ark.

No. MC-117119 (Sub-No. E106), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in the Lower Peninsula of Michigan to points in Oklahoma and Texas. The purpose of this filing is to eliminate the gateway of Van Buren, Ark. (within the Fort Smith, Ark., commercial zone).

No. MC-117119 (Sub-No. E107), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned goods*, from points in the lower Peninsula of Michigan to points in Arizona, California, New Mexico, and to Reno, Carson City, and Las Vegas, Nev. The purpose of this filing is to eliminate the gateway of Siloam Springs, Ark.

No. MC-117119 (Sub-No. E108), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned goods*, from East St. Louis, Ill., to points in Arizona, California, New Mexico, and Nevada. The purpose of this filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E109), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as

above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned goods*, (a) from points in Illinois on and south of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois State Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Mound City) to points in Oklahoma and to points in Texas on and west of a line beginning at the Oklahoma-Texas State line and extending southward along U.S. Highway 75 to Huntsville, thence along Texas Highway 30 to Navosota, thence along Texas Highway 6 to Hempstead, thence along Texas Highway 159 to Bellville, thence along Texas Highway 36 to junction with Texas Highway 60, thence along Texas Highway 60 to Matagorda, thence along Texas Farm Road 2031 to the Gulf of Mexico; (b) from points in Illinois on and south of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois State Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except points in Madison, St. Claire, Monroe, Randolph, Jackson, Union, Alexander, Perry, Pulaski, Johnson, Massac, Pope, Hardin, Williamson, Saline, Gallatin, Franklin, Hamilton, White, Washington, Clinton, Mt. Vernon, Wayne, Edwards, and Wash County), to points in Texas east of a line beginning at the Oklahoma-Texas State line and extending southward along U.S. Highway 75 to Huntsville, thence along Texas Highway 30 to Navosota, thence along Texas Highway 6 to Hempstead, thence along Texas Highway 159 to Bellville, thence along Texas Highway 36 to junction with Texas Highway 60, thence along Texas Highway 60 to Matagorda, thence along Texas Farm Road 2031 to the Gulf of Mexico. The purpose of this filing is to eliminate the gateways of Springdale, Ark., and Westville, Okla.

No. MC-117119 (Sub-No. E110), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in that part of Iowa on and west of U.S. Highway 169 to points in Alabama. The purpose of this filing is to eliminate the gateway of Little Rock, Ark.

No. MC-117119 (Sub-No. E111), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned or preserved foodstuffs*, from points in Grant, Crawford, Vernon, La Crosse, Trempealeau, Buffalo, Eau Claire, Pepin, Pierce, Dunn, St. Croix, Chippewa, Polk,

Barron, Burnett, Washburn, Douglas, Rusk, Sawyer, Bayfield, Ashland, and Price Counties, Wis., to points in Georgia. The purpose of this filing is to eliminate the gateway of Hoxie, Ark.

No. MC-117119 (Sub-No. E112), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from Cleveland, Ohio to points in Colorado (except points in Sedgewick, Phillips, Logan, Yuma, Washington, Morgan, Weld, Adams, and Arapahoe Counties). The purpose of this filing is to eliminate the gateway of Fayetteville, Ark.

No. MC-117119 (Sub-No. E113), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Foodstuffs*, from Chicago, Ill., to Jackson, Tenn. The purpose of this filing is to eliminate the gateway of Blytheville, Ark.

No. MC-117119 (Sub-No. E114), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from Cleveland, Ohio to points in Oklahoma and Texas. The purpose of this filing is to eliminate the gateway of Van Buren, Ark. (within the Fort Smith, Ark. commercial zone).

No. MC-117119 (Sub-No. E115), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *Common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods* (except frozen meats), from Omaha, Nebraska to points in Delaware, New Jersey, Maryland, and the District of Columbia, points in Adams, York, Lancaster, Dauphin, Lebanon, Chester, Delaware, Philadelphia, Bucks, Montgomery, Berks, Schuylkill, Lehigh, Northampton, Carbon, Luzerne, Monroe, Lackawanna, Pike, and Wayne Counties, Pa., and points in Richmond, Kings, New York, Queens, Nassau, Suffolk, Westchester, Rockland, Orange, Putnam, Ulster, Dutchess, Greene, Schenectady, Columbia, Albany, Rensselaer, Saratoga, Washington, Warren, Essex, and Clinton Counties, N.Y. The purpose of this filing is to eliminate the gateways of St. Joseph, Mo., Rulo, Nebr., and Kansas City, Mo.

No. MC-117119 (Sub-No. E116), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's

representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Prepared and preserved foodstuffs*, in containers, from the plantsites and storage facilities of Jeno's Inc., at Duluth, Minn., to points in Georgia and Florida. The purpose of this filing is to eliminate the gateway of Hoxie, Ark.

No. MC-117119 (Sub-No. E117), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from Peoria, Streator, Washington, Morton, and Eureka, Ill., to points in Arizona, California, New Mexico, and Reno, Carson City, and Las Vegas, Nev. The purpose of this filing is to eliminate the gateway of Fayetteville, Ark.

No. MC-117119 (Sub-No. E119), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, (a) From points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Blue Island, Chicago, Eola, Eureka, Gibson City, Hoopeston, Peoria, Rossville, Streator, South Holland, and Washington) to points in Arizona, New Mexico, and to points in California on and south of Interstate Highway 80 (except points in Nevada, Placer, El Dorado, Alpine, Amador, Calaveras, Sacramento, San Joaquin, Solano, and Contra Costa Counties); (b) from points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois State Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Blue Island, Chicago, Eola, Eureka, Gibson City, Hoopeston, Peoria, Rossville, Streator, South Holland and Washington and points in Jo Daviess, Stephenson, Winnebago, Boone, De Kalb, Ogle, Carroll, Whiteside, Lee, Rock Island, Henry, Bureau, La Salle, Putnam, Marshall, Stark, Peoria, Knox, Warren, Henderson, Hancock, McDonough, and Fulton Counties) to Reno, Carson City, and Las Vegas, Nevada and points in California north of Interstate Highway 80 (except points in Modoc, Lassen, and Plumas Counties). The purpose of this filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E120), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as

above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and extending along Illinois Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except Blue Island, Chicago, Eola, Eureka, Gibson City, Hoopeston, Peoria, Rossville, Streator, South Holland, and Washington) to points in Oklahoma (except points in Cimarron, Texas, Beaver, Harper, and Ellis Counties) and to points in Texas on and south of Interstate Highway 40, restricted against the transportation of frozen foods from points in Madison, Jersey, Calhoun, Greene, Pike, Adams, Hancock, Henderson, Mercer, and Warren Counties, Ill., to points in Ottawa, Delaware, Mayes, Craig, Nowata, Rogers, Washington, and Tulsa Counties, Okla. The purpose of this filing is to eliminate the gateway of Van Buren, Ark.

No. MC-117119 (Sub-No. E121), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Canned goods*, (a) From points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois Highway 140 to junction with Interstate Highway 70; thence along Interstate Highway 70 to the Illinois-Indiana State line to points in Arizona, New Mexico, and to points in California on and south of Interstate Highway 80 (except points in Nevada, Placer, El Dorado, Alpine, Amador, Calaveras, Sacramento, San Joaquin, Solano, and Contra Costa Counties); (b) From points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and extending eastward along Illinois Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except points in Jo Daviess, Stephenson, Winnebago, Boone, DeKalb, Ogle, Carroll, Whiteside, Lee, Rock Island, Henry, Bureau, LaSalle, Putnam, Marshall, Stark, Knox, Warren, Henderson, Hancock, McDonough, and Fulton Counties) to Reno, Carson City, and Las Vegas, Nevada and points in California north of Interstate Highway 80 (except points in Modoc, Lassen, and Plumas Counties). The purpose of this filing is to eliminate the gateway of Siloam Springs, Ark.

No. MC-117119 (Sub-No. E123), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Canned or preserved foodstuffs*, (a) from points in Illinois north of a line beginning at the Missouri-Illinois State line at Alton and

extending westward along Illinois Highway 140 to junction with Interstate Highway 70, thence along Interstate Highway 70 to the Illinois-Indiana State line (except points in Jo Daviess, Stephenson, and Carroll Counties) to points in Idaho, Oregon, Utah, Washington, and Kansas; (b) from points in Jo Daviess, Stephenson, and Carroll Counties, Ill., to points in Utah, Oregon, points in Washington on and west of Interstate Highway 5 and to points in Kansas (except points in Cheyenne, Rawlins, Sherman, and Thomas Counties). The purpose of this filing is to eliminate the gateway of California, Mo.

No. MC-117119 (Sub-No. E125), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Foodstuffs* (except dairy products, and commodities in bulk), from points in Illinois north of a line beginning at the Illinois-Missouri State line at Alton and extending along Illinois Highway 140 to junction with Interstate Highway 70, thence eastward along Interstate Highway 70 to the Illinois-Indiana State line and on and south of a line beginning at the Illinois-Missouri State line at Pike and extending along U.S. Highway 54 to junction with U.S. Highway 36, thence eastward along U.S. Highway 36 to Decatur, thence along Illinois State Highway 47 and Interstate Highway 72 to Champaign, thence along U.S. Highway 150 to the Illinois-Indiana State line, to points in Oregon, points in Washington on and west of Interstate Highway 5, and Reno, Carson City, and Las Vegas, Nevada. The purpose of this filing is to eliminate the gateway of Springdale, Ark.

No. MC-117119 (Sub-No. E126), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, (a) from points in Houston, Fillmore, Mower, Freeborn, Winona, Olmsted, Dodge, and Steele Counties, Minn., to points in Washington, Oregon, and Idaho; (b) from points in Goodhue and Dakota Counties and Minneapolis and St. Paul, Minn., to points in Oregon, and points in Owyhee, Ada, Canyon, Elmore, Gooding, Twin Falls, Cassia, Jerome, Minidoka, Power, Oneida, Bannock, Bingham, Bonneville, Fremont, Madison, Teton, Payette, and Gem Counties, Idaho. The purpose of this filing is to eliminate the gateway of Hastings, Nebr.

No. MC-117119 (Sub-No. E127), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned*

goods, from Fort Smith, Ark., to points in Oklahoma, Louisiana, and Texas. The purpose of this filing is to eliminate the gateway of Spiro, Okla.

No. MC-117119 (Sub-No. E128), filed May 15, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned goods*, from Springdale, Lowell, and Johnson, Ark., to points in Texas, Louisiana, and Oklahoma (except points in Ottawa, Delaware, Mayes, Craig, Nowata, Rogers, Tulsa, and Washington Counties). The purpose of this filing is to eliminate the gateway of Westville, Okla.

No. MC-117119 (Sub-No. E129), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN FOOD, P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Canned goods*, in vehicles equipped with mechanical refrigeration, from Athens, Ala., and Bells, Humboldt, and Jackson, Tenn., to points in Colorado. The purpose of this filing is to eliminate the gateway of Springdale, Ark., and Westville, Okla.

No. MC-117119 (Sub-No. E130), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen bakery goods*, from Chicago and Deerfield, Ill., to points in Arkansas and Tennessee. The purpose of this filing is to eliminate the gateway of LaPorte, Ind.

No. MC-117119 (Sub-No. E136), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen meat and frozen dairy products* (except commodities in bulk, in tank vehicles), from points in Wisconsin to points in Oklahoma east of Oklahoma Highway 34 and points in Texas on and south of U.S. Highway 66. The purpose of this filing is to eliminate the gateway of Van Buren, Ark.

No. MC-117119 (Sub-No. E137), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen meat and frozen dairy products* (except commodities in bulk, in tank vehicles), from points in Wisconsin to points in New Mexico, Arizona, California, Colorado, Utah, and Nevada. The purpose of this filing is to eliminate the gateway of St. Joseph, Mo.

No. MC-117119 (Sub-No. E138), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen meat and frozen dairy products*, from points in Wisconsin on and south of Wisconsin Highway 29 to points in Washington, Oregon, and Idaho. The purpose of this filing is to eliminate the gateway of Hastings, Nebr.

No. MC-117119 (Sub-No. E139), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from Belvedere, Ill., to points in Arizona, California, New Mexico, and Las Vegas, Nev. The purpose of this filing is to eliminate the gateway of Fayetteville, Ark.

No. MC-117119 (Sub-No. E161), filed May 8, 1974. Applicant: WILLIS SHAW FROZEN EXPRESS, INC., P.O. Box 188, Elm Springs, Ark. 72728. Applicant's representative: L. M. McLean (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Frozen foods*, from Crozet, Va., to points in Arizona, California, Wyoming, Nevada, New Mexico, and Utah. The purpose of this filing is to eliminate the gateway of St. Joseph, Mo.

No. MC-118755 (Sub-No. E1), filed May 3, 1974. Applicant: S. S. CIEUTAT dba CIEUTAT PRODUCE CO., Riverdale, Ga. Applicant's representative: Monty Schumacher, Suite 310, Bankers Fidelity Life Building, 2045 Peachtree Road NE., Atlanta, Ga. 30309. Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Bananas*, (a) from Miami and Port Everglades, Fla., to Birmingham, Montgomery, and Tuscaloosa, Ala.; Knoxville, Nashville, and Morristown, Tenn., and Greenville, S.C.; (b) from Tampa, Fla., to Birmingham, Ala., Morristown, Tenn., and Greenville, S.C.; (c) from Mobile, Ala., to Chattanooga, and Morristown, Tenn.; (d) from New Orleans, La., to Columbia, S.C., and Chattanooga, Tenn.; (e) from Charleston, S.C., to Mobile and Montgomery, Ala., and Chattanooga and Nashville, Tenn.; (f) from Gulfport, Miss., to Chattanooga, Morristown, and Knoxville, Tenn., and Columbia, S.C. The purpose of this filing is to eliminate the gateway of Atlanta, Ga.

No. MC-123639 (Sub-No. E4), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. 80216. Applicant's representative: John F. DeCock, (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Meats, meat products and meat by-products*,

and articles distributed by meat-packinghouses, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, except commodities in bulk, in tank or hopper-type vehicles, from points in that part of Kansas south of U.S. Highway 40, and on and north of Kansas Highway 68 from the Kansas-Missouri State line near Louisburg, to junction U.S. Highway 50 at Ottawa, thence on and north of U.S. Highway 50 to junction Kansas Highway 150 near Elmdale, thence on and north of Kansas Highway 150 to junction U.S. Highway 56, thence on and north of U.S. Highway 56 to Great Bend, thence on and north of Kansas Highway 96 to the Kansas-Colorado State line, to points in Arizona except points in that part of Arizona on and east of U.S. Highway 89 and north of U.S. Highway 66, and that part of Arizona east of Arizona Highway 87 from Winslow to Mesa, thence east of Arizona Highway 93 to Casa Grande, thence east of unnumbered highway from Casa Grande to Quijotoa, thence south of Arizona Highway 86 to junction Arizona Highway 85, thence east of Arizona Highway 85 to the United States-Mexico International Boundary line. The purpose of this filing is to eliminate the gateway of Denver, Colo.

No. MC-123639 (Sub-No. E5), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. 80216. Applicant's representative: John F. DeCock (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Dairy products and vegetable food products*, from points in Iowa, Nebraska, those in that part of Illinois north of a line extending from a point on the Missouri-Illinois State line directly west of Springfield, Ill., through Springfield to the Illinois-Indiana State line, and those in Kansas on and north of U.S. Highway 40 to points in Arizona. The purpose of this filing is to eliminate the gateway of Denver, Colo.

No. MC-123639 (Sub-No. E6), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. 80216. Applicant's representative: John F. DeCock (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat by-products*, as described in Section A of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, except commodities in bulk, in tank or hopper-type vehicles, from Scottsbluff, Nebr., to points in that part of Illinois on and east of U.S. Highway 51 from the Illinois-Wisconsin State line near South Beloit, Ill., to Bloomington, thence on and north of Illinois Highway 9 to the Illinois-Indiana State line. The purpose of this filing is to eliminate the gateway of points in that part of Illinois located in the Gary, Ind., commercial zone.

No. MC-123639 (Sub-No. E7), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. Applicant's representative: John F. DeCock (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Packinghouse products and dairy products*, except commodities in bulk, in tank or hopper-type vehicles, from points in Iowa, Nebraska, that part of Colorado on, north, and east of a line along U.S. Highway 34 from the Colorado-Kansas State line to junction U.S. Highway 6 at Fort Morgan, thence along U.S. Highway 6 to Denver, thence along Colorado Highway 1 to junction U.S. Highway 87 at or near Wellington, thence along U.S. Highway 87 to the Wyoming-Colorado State line, that part of Illinois north of a line extending from a point on the Missouri-Illinois State line directly west of Springfield, through Springfield, to the Illinois-Indiana State line, and that part of Kansas on and north of U.S. Highway 36 east of a line along U.S. Highway 81 from the Kansas-Oklahoma State line to Wichita, thence along Kansas Highway 96 to Hutchinson, thence along Kansas Highway 61 to junction U.S. Highway 81 near McPherson, thence along U.S. Highway 81 to junction U.S. Highway 36 near Belleville to Colorado Springs, Colo. The purpose of this filing is to eliminate the gateway of Denver, Colo.

No. MC-123639 (Sub-No. E8), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. 80216. Applicant's representative: John F. DeCock (same as above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Packinghouse products and dairy products*, except commodities in bulk, in tank or hopper-type vehicles, from points in Iowa, Nebraska, that part of Colorado on, north, and east of a line along U.S. Highway 34 from the Colorado-Kansas State line to junction U.S. Highway 6 at Ft. Morgan, thence along U.S. Highway 6 to Denver, thence along Colorado Highway 1 to junction U.S. Highway 87 at or near Wellington, thence along U.S. Highway 87 to the Wyoming-Colorado State line, that part of Illinois north of a line extending from a point on the Missouri-Illinois State line, directly west of Springfield, through Springfield to the Illinois-Indiana State line, and that part of Kansas on, north, and east of a line along U.S. Highway 40 from the Kansas-Missouri State line to Topeka, thence along U.S. Highway 24 to junction U.S. Highway 81, thence along U.S. Highway 81 to junction U.S. Highway 36, thence along U.S. Highway 36 to the Kansas-Colorado State line, to Pueblo, Colo. The purpose of this filing is to eliminate the gateway of Denver, Colo.

No. MC-123639 (Sub-No. E9), filed May 14, 1974. Applicant: J. B. MONTGOMERY, INC., 5150 Brighton Blvd., Denver, Colo. 80216. Applicant's representative: John F. DeCock (same as

above). Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Meats, meat products, and meat by-products, and articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except hides, dry acids and chemicals, in bulk, and liquid commodities, in bulk, in tank vehicles), from the plant site of storage facilities of Griffith Provision Company, Inc., at or near Downs, Kans., to points in California, Idaho, Oregon, Utah, and Washington. The purpose of this filing is to eliminate the gateway of Minden, Nebr.

By the Commission.

[SEAL]

ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14431 Filed 6-21-74; 8:45 am]

[Notice No. 87]

MOTOR CARRIER TEMPORARY AUTHORITY APPLICATIONS

JUNE 14, 1974.

The following are notices of filing of application; except as otherwise specifically noted, each applicant states that there will be no significant effect on the quality of the human environment resulting from approval of its application, for temporary authority under section 210(a) of the Interstate Commerce Act provided for under the new rules of Ex Parte No. MC-67 (49 CFR 1131), published in the *FEDERAL REGISTER*, issue of April 27, 1965, effective July 1, 1965. These rules provide that protests to the granting of an application must be filed with the field official named in the *FEDERAL REGISTER* publication, within 15 calendar days after the date of notice of the filing of the application is published in the *FEDERAL REGISTER*. One copy of such protests must be served on the applicant, or its authorized representative, if any, and the protests must certify that such service has been made. The protests must be specific as to the service which such protestant can and will offer, and must consist of a signed original and six (6) copies.

A copy of the application is on file, and can be examined at the Office of the Secretary, Interstate Commerce Commission, Washington, D.C., and also in field office to which protests are to be transmitted.

MOTOR CARRIERS OF PROPERTY

No. MC 409 (Sub-No. 54 TA), filed June 6, 1974. Applicant: SCHROETTLIN TANK LINE, INC., Mfg.: P.O. Box 511, Off Saunders Ave. & Highway 6, Sutton, Nebr. 68979. Applicant's representative: Patrick E. Quinn, 605 South 14th Street, Box 82028, Lincoln, Nebr. 68501. Authority sought to operate as a common carrier, by motor vehicle, over irregular routes, transporting: *Liquid feed and feed supplements*, from Blair, Nebr., to points in Iowa, Illinois, Missouri, Kansas, Minnesota, Wisconsin, North Dakota,

South Dakota, Colorado, Wyoming, Oklahoma, and Ports of Entry on the Boundary between the United States and Canada located in North Dakota and Minnesota, for 180 days. **SUPPORTING SHIPPER:** R. H. Ift, Regional Manager, Ruminant Nitrogen Products Company, 128 South 17th St., Box 450, Blair, Nebr. 68008. **SEND PROTESTS TO:** Max H. Johnston, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 320 Federal Building & Court House, Lincoln, Nebr. 68508.

No. MC 22229 (Sub-No. 86 TA), filed June 7, 1974. Applicant: **TERMINAL TRANSPORT CO., INC.**, 248 Chester Avenue, SE., Atlanta, Ga. 30316. Applicant's representative: Harold H. Clokey, 1740 The Equitable Building, Atlanta, Ga. 30303. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Frozen foods and materials, supplies, equipment and ingredients* used in the manufacturing, packaging and distribution of frozen foods (except in bulk), between the plant and warehouse facilities of the Quaker Oats Company in or near Jackson, Tenn., on the one hand, and, on the other, points in Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Massachusetts, Michigan, Missouri, and Ohio, restricted to traffic originating at or destined to the plant or warehouse facilities of the Quaker Oats Company in or near Jackson, Tenn., for 180 days.

NOTE: Applicant states that it will tack with Docket No. MC 22229. **SUPPORTING SHIPPER:** The Quaker Oats Company, Merchandise Mart Plaza, Chicago, Ill. 60654. **SEND PROTESTS TO:** William L. Scroggs, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 1252 W. Peachtree St., NW., Room 309, Atlanta, Ga. 30309.

No. MC 41404 (Sub-No. TA), filed May 31, 1974. Applicant: **ARGO-COLLIER TRUCK LINES CORPORATION**, P.O. Box 440, Fulton Highway, Martin, Tenn. 38237. Applicant's representative: Mark L. Horne, P.O. Box 440, Fulton Highway, Martin, Tenn. 38237. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas, and agricultural commodities* exempt from economic regulation under Section 203(b) (6) of the Act, when transported in mixed shipments with bananas, from Mobile, Ala., to points in Alabama, Arizona, Arkansas, Georgia, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, South Dakota, and Tennessee, restricted to the transportation of traffic having an immediate prior move by water, for 180 days. **SUPPORTING SHIPPER:** Del Monte Banana Company, 1201 Brickell Avenue, Miami, Fla. 33101. **SEND PROTESTS TO:** District Supervisor Floyd A. Johnson, Interstate Commerce Commission, Bureau of Operations, 435 Federal Office Building, 167 North Main Street, Memphis, Tenn. 38103.

No. MC 59531 (Sub-No. 97 TA), filed June 6, 1974. Applicant: **AUTO CON-**

VOY CO., 3020 South Haskell Avenue, Dallas, Tex. 75223. Applicant's representative: Walter N. Bieneman, 100 West Long Lake Road, Suite 102, Bloomfield Hills, Mich. 48013. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Automobiles, trucks, and buses* as described in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766, in secondary movements, in truckaway service, from the import facilities of Volkswagen of America, Inc., at Houston, Tex., to points in Colorado and Wyoming, for 180 days. **SUPPORTING SHIPPER:** Volkswagen of America, Inc., South Central Region, 10443 Gulfdale Drive, P.O. Box 2207, San Antonio, Tex. 78298. **SEND PROTESTS TO:** District Supervisor Gerald T. Holland, Interstate Commerce Commission, Bureau of Operations, 1100 Commerce Street, Room 13C12, Dallas, Tex. 75202.

No. MC 95540 (Sub-No. 902 TA), filed June 7, 1974. Applicant: **WATKINS MOTOR LINES, INC.**, 1940 Monroe Road, Atlanta, Ga. 30342. Applicant's representative: Jerome F. Marks, P.O. Box 1636, Atlanta, Ga. 30301. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Meat, meat products, meat by-products and articles distributed by meat packinghouses*, as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates*, 61 M.C.C. 209 and 766 (except hides and commodities in bulk, in tank vehicles), from the plantsite of and storage facilities utilized by American Beef Packers, Inc., at or near Cactus, Tex. (Moore County), to points in Colorado, North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, Kentucky, Michigan, and Ohio, restricted to traffic originating at and destined to the named points, for 180 days. **SUPPORTING SHIPPER(S):** American Beef Packers, Inc., 7000 W. Center Road, Omaha, Nebr. **SEND PROTESTS TO:** William L. Scroggs, District Supervisor, 1252 West Peachtree Street NW., Room 309, Atlanta, Ga. 30309.

No. MC 106674 (Sub-No. 136 TA), filed June 4, 1974. Applicant: **SCHILLI MOTOR LINES, INC.**, P.O. Box 123, Remington, Ind. 47977. Applicant's representative: Jerry L. Johnson (same address as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Lime*, in bulk, from the plantsite and facilities of Ashgrove Cement Company at or near Springfield, Mo., to the plantsite of the Johns-Manville Products Corporation at Richmond, Ind., for 180 days. **SUPPORTING SHIPPER:** Johns-Manville Products Corp., Waukegan, Ill. 60085. **SEND PROTESTS TO:** J. H. Gray, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 345 W. Wayne St., Room 204, Ft. Wayne, Ind. 46802.

No. MC 107403 (Sub-No. 902 TA), filed June 7, 1974. Applicant: **MATLACK,**

INC., Ten W. Baltimore Avenue, Lansdowne, Pa. 19050. Applicant's representative: John Nelson (same address as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Motor fuel antiknock compound*, from: Baton Rouge, La. to Seattle, Wash., for 180 days. **SUPPORTING SHIPPER:** J. E. Helseth, Manager International Transportation, Ethyl Corporation, 451 Florida, Baton Rouge, La. 70801. **SEND PROTESTS TO:** Ros A. Davis, District Supervisor, Interstate Commerce Commission, Federal Bldg., 600 Arch Street, Room 3238, Philadelphia, Pa. 19106.

No. MC 107839 (Sub-No. 156 TA) (AMENDMENT), filed April 19, 1974, published in the *FEDERAL REGISTER* issue of April 26, 1974, and republished as amended this issue. Applicant: **DENVER-ALBUQUERQUE MOTOR TRANSPORT, INC.**, 2121 East 67th Avenue, Denver, Colo. 80216. Applicant's representative: Edward T. Lyons, Jr., 1600 Lincoln Center Building, Denver, Colo. 80203.

NOTE.—The purpose of this republication is to add the state of South Carolina, as a destination point, which was omitted in previous publication. The rest of the application will remain as published in the *FEDERAL REGISTER*.

No. MC 109689 (Sub-No. 270 TA), filed June 6, 1974. Applicant: **W. S. HATCH CO.**, 643 South 800 West, Woods Cross, Utah 84087. Applicant's representative: Mark K. Boyle, 345 South State Street, Salt Lake City, Utah 84111. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Sulfuric acid*, from San Manuel, Ariz., to points in Colorado, New Mexico, and Texas, for 180 days. **SUPPORTING SHIPPERS:** Newmont Mining Corporation, 300 Park Avenue, New York, N.Y. (Mark E. Emerson, Minerals & Transport Economist) and Phillips Petroleum Company, 66 Bovet Road, San Mateo, Calif. 94402 (Charles G. Adler, Assistant Regional District Director). **SEND PROTESTS TO:** District Supervisor Lyle D. Helfer, Interstate Commerce Commission, Bureau of Operations, 125 South State Street, 5301 Federal Building, Salt Lake City, Utah 84138.

No. MC 109689 (Sub-No. 271 TA), filed June 6, 1974. Applicant: **W. S. HATCH CO.**, 643 South 800 West, Woods Cross, Utah 84087. Applicant's representative: Mark K. Boyle, 345 South State Street, Salt Lake City, Utah 84111. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Sulfuric acid*, from San Manuel, Ariz., to points in California, Nevada, and Utah, for 180 days. **SUPPORTING SHIPPERS:** Phillips Petroleum Company, 66 Bovet Road, San Mateo, Calif. 94402 (Charles G. Adler, Assistant Regional District Director) and Newmont Mining Corporation, 300 Park Avenue, New York, N.Y. (Mark E. Emerson, Minerals and Transport Economist). **SEND PROTESTS TO:** District Supervisor Lyle D. Helfer, Interstate

Commerce Commission, Bureau of Operations, 5301 Federal Building, 125 South State Street, Salt Lake City, Utah 84138.

No. MC 109689 (Sub-No. 272 TA), filed June 6, 1974. Applicant: W. S. HATCH CO., 643 South 800 West, Woods Cross, Utah 84087. Applicant's representative: Mark K. Boyle, 345 South State Street, Salt Lake City, Utah 84111. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Liquid chemicals*, in bulk (except petrochemicals and sulfuric acid), from points in Pima and Maricopa Counties, Ariz., to points in Nevada and Utah, for 180 days. SUPPORTING SHIPPERS: Kerley Chemical Corporation of Arizona, 2801 West Osborn Road, Phoenix, Ariz. 85017 (F. L. Blake, Jr., Operations Manager) and Chemical Distributors, doing business as, Arizona Agro-Chemical Company, 2602 South 24th Street, Phoenix, Ariz. 85034 (F. G. Stork, Traffic Manager). SEND PROTESTS TO: District Supervisor Lyle D. Helfer, Interstate Commerce Commission, Bureau of Operations, 5301 Federal Building, 125 South State Street, Salt Lake City, Utah 84138.

No. MC 109689 (Sub-No. 273 TA), filed June 6, 1974. Applicant: W. S. HATCH CO., Off.: 643 South 800 West Woods Cross, Utah 84087. Applicant's representative: Mark K. Boyle, 345 South State Street, Salt Lake City, Utah 84111. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Industrial chemicals and feed supplements*, in bulk (except petrochemicals, paint, lacquer thinner, varnish, turpentine, phosphoric acid and sulfuric acid), from points in Pima and Maricopa Counties, Ariz., to points in California, for 180 days. SUPPORTING SHIPPERS: Kerley Chemical Corporation of Arizona, 2801 West Osborn Road, Phoenix, Ariz. 85017 (F. L. Blake, Jr., Operations Manager); Chemical Distributors, doing business as, Arizona Agro-Chemical Company, 2602 South 24th Street, Phoenix, Ariz. 85034. SEND PROTESTS TO: District Supervisor Lyle D. Helfer, Interstate Commerce Commission, Bureau of Operations, 5301 Federal Building, 125 South State Street, Salt Lake City, Utah 84138.

No. MC 111729 (Sub-No. 444 TA), filed June 5, 1974. Applicant: PUROLATOR COURIER CORP., 2 Nevada Drive, Lake Success, N.Y. 11040. Applicant's representative: John M. Delany (same address as above). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: (1) *ophthalmic goods, and business papers and records related thereto*, between Hobart, Ind., on the one hand, and, on the other, Battle Creek, Benton Harbor, Buchanan, Cassopolis, Kalamazoo, Niles, St. Joseph, and Three Rivers, Mich.; Calumet City, Dolton, Lansing, Men-delein, South Chicago and South Holland, Ill.; (2) *business papers, records, audit and accounting media of all kinds*, between Cleveland, Ohio, on the one

hand, and, on the other, Sharon and Lower Burrell, Pa.; and (3) *government documents, bid sheets, proposals and business papers, records, audit and accounting media of all kinds*, (a) between Bethlehem, Pa., on the one hand, and, on the other, Oakland, Salisbury, Hagerstown, Cumberland and Westminster, Md.; and (b) between Bethlehem and Philadelphia, Pa., on traffic having a prior or subsequent movement by air, for 180 days. SUPPORTING SHIPPERS: Uniroyal Tire and Auto Service, 3333 Fannin Street, Houston, Tex.; Don A. Ray, Regional Manager; Urban Research & Development Corp., Dodson Building, 528 North New Street, Bethlehem, Pa. 18018; Collie Optical Laboratory, Inc., 101 E. 3rd Street, Hobart, Ind. 46342, Richard F. Kruse, Vice President. SEND PROTESTS TO: Anthony D. Giaimo, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 26 Federal Plaza, Rm. 1807, New York, N.Y. 10007.

No. MC 112617 (Sub-No. 317 TA), filed June 5, 1974. Applicant: LIQUID TRANSPORTERS, INC., P.O. Box 21395, Louisville, Ky. 40221. Applicant's representative: Bruce H. Kraemer (same address as applicant). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bituminous materials*, in bulk, in tank vehicles, from Louisville, Ky., to points in Indiana, for 180 days. SUPPORTING SHIPPER: Dee D. Armstrong, Head Distribution, Chevron Asphalt Company, P.O. Box 38014, Cincinnati, Ohio 45238. SEND PROTESTS TO: Wayne L. Merilatt, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 426 Post Office Building, Louisville, Ky. 40202.

No. MC 112854 (Sub-No. 34 TA), filed June 5, 1974. Applicant: HOLLEBRAND TRUCKING, INC., P.O. Box 164, Ontario Center, N.Y. 14520. Applicant's representative: S. Michael Richards, 44 North Avenue, Webster, N.Y. 14580. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Manufactured dairy products and fresh salads*, (1) from Binghamton, N.Y., to Richmond and Norfolk, Va.; Charlotte and Raleigh, N.C.; Charleston and Columbia, S.C.; Atlanta, Statesboro, Thomasville and Valdosta, Ga. and (2) from LaFargeville, Arkport and Binghamton, N.Y., to points in Florida (except as presently authorized), for 180 days. SUPPORTING SHIPPER: Crowley Foods, Inc., Binghamton, N.Y. SEND PROTESTS TO: Morris H. Gross, District Supervisor, Interstate Commerce Commission, Bureau of Operations, Room 104, 301 Erie Blvd., West, Syracuse, N.Y. 13202.

No. MC 114969 (Sub-No. 47 TA), filed May 31, 1974. Applicant: PROPANE TRANSPORT, INC., P.O. Box 232, 1734 State Route 131, Milford, Ohio 45150. Applicant's representative: James M. Roundbush (same address as applicant). Authority sought to operate as a *common carrier*, by motor vehicle, over irregular

routes, transporting: *Petroleum crude oil*, in bulk, in tank vehicles, from points in Scott and Morgan Counties, Tenn., to Ashland Pipe Line Company's facilities at or near Ravenna, Estill County, Falcon in Magoffin County, and Lebanon Junction, Bullitt County, Ky., for 180 days. SUPPORTING SHIPPER: Ashland Oil, Inc., Box 391, Ashland, Ky. 41101. SEND PROTESTS TO: Paul J. Lowry, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 5514-B Federal Building, 550 Main Street, Cincinnati, Ohio 45202.

No. MC 115496 (Sub-No. 25 TA), filed June 7, 1974. Applicant: LUMBER TRANSPORT, INC., P.O. Box 111, Cochran, Ga. 31014. Applicant's representative: Virgil H. Smith, 1587 Phoenix Blvd., Suite 12, Atlanta, Ga. 30349. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Lumber*, from the plant site and warehouses of Building Products Division of Gilman Paper Company at Laurens and Pierce Counties, Ga., to points in Alabama, Mississippi, North Carolina, South Carolina, Virginia, and Tennessee (Shelby County only), for 180 days. SUPPORTING SHIPPER: Building Products, Division Gilman Paper Company, P.O. Box 520, St. Marys, Ga. 31558. SEND PROTESTS TO: William L. Scroggs, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 1252 West Peachtree Street NW., Room 309, Atlanta, Ga. 30309.

No. MC 115762 (Sub-No. 6 TA), filed June 6, 1974. Applicant: KENTUCKY WESTERN TRUCK LINES, INC., P.O. Box 623, Hopkinsville, Ky. 42240. Applicant's representative: Richard D. Gleaves, 601 Stahlman Building, Nashville, Tenn. 37201. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Ties* (cross-ties, switch ties and railroad ties), treated and untreated, between the following points and their commercial zones, on the one hand: Puryear, Paris, McKenzie, Huntingdon, Lexington, Jackson, Henderson, Savannah, Selmer, and Bolivar, Tenn., and Corinth, Miss., and its commercial zone; and, on the other hand, Carbondale, Ill., and its commercial zone, for 180 days. SUPPORTING SHIPPER: Mr. Clinton E. Appleby, Assistant Manager Traffic Services, Koppers Company, Inc., 850 Koppers Building, Pittsburgh, Pa. 15219. SEND PROTESTS TO: District Supervisor Wayne L. Merilatt, Interstate Commerce Commission, Bureau of Operations, 426 Post Office Building, Louisville, Ky. 40202.

No. MC 117068 (Sub-No. 30 TA), filed June 7, 1974. Applicant: MIDWEST HARVESTORE TRANSPORT, INC., 2118 17th Avenue NW., Rochester, Minn. 55901. Applicant's representative: Paul F. Sullivan, 711 Washington Bldg., 15th and New York Ave. NW., Washington, D.C. 20005. Authority sought to operate as a *common carrier*, by motor vehicle,

over irregular routes, transporting: *Feedlot flooring*, from Girard, Ohio, to points in Minnesota, Iowa, Nebraska, Illinois, Wisconsin, South Dakota, and North Dakota, for 180 days. SUPPORTING SHIPPER: Pal, Inc., P.O. Box 75, Sioux Falls, S. Dak. 57101. SEND PROTESTS TO: A. N. Spath, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 414 Federal Building & U.S. Court House, 110 S. 4th Street, Minneapolis, Minn. 55401.

No. MC 119639 (Sub-No. 14TA), filed June 6, 1974. Applicant: INCO EXPRESS, INC., 3600 South 124th, Seattle, Wash. 98168. Applicant's representative: Victor Di Pietro, 3600 South 124th, Seattle, Wash. 98168. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Cloth or fabric coated with plastic, and liquid plastic, in containers*, from Saugus, Los Angeles County, Calif., to ports of entry on the International Boundary Line between the United States and Canada at or near Blaine and Sumas, Wash., restricted to transportation having a subsequent movement in foreign commerce, for 180 days. SUPPORTING SHIPPER: E. I. Du Pont de Nemours & Company, 1007 Market St., Wilmington, Del. SEND PROTESTS TO: L. D. Boone, Transportation Specialist, Bureau of Operations, Interstate Commerce Commission, 6049 Federal Office Bldg., Seattle, Wash. 98104.

No. MC-119669 (Sub-No. 49 TA), filed May 30, 1974. Applicant: TEMPCO TRANSPORTATION, INC., 546 South 31A, P.O. Box 886, Columbus, Ind. 47201. Applicant's representative: Jack H. Blanshan, 29 South LaSalle Street, Chicago, Ill. 60603. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas, and agricultural commodities exempt from economic regulation under Section 203(b)(6) of the Act*, when transported in mixed loads with bananas, from Mobile, Ala., to points in Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Nebraska, Ohio, Tennessee, and Wisconsin, restricted to the transportation of traffic having an immediate prior move by water, for 180 days. SUPPORTING SHIPPER: Del Monte Banana Company, 1201 Brickell Avenue, Miami, Fla. 33101. SEND PROTESTS TO: James W. Habermehl, District Supervisor, Bureau of Operations, Interstate Commerce Commission, 802 Century Bldg., 36 S. Penh. St., Indianapolis, Ind. 46204.

No. MC-120543 (Sub-No. 76 TA), filed June 7, 1974. Applicant: FLORIDA REFRIGERATED SERVICE, INC., 1405 U.S. Highway, Dade City, Fla. 33525. Applicant's representative: Bruce E. Mitchell, Suite 375, 3379 Peachtree Road NE, Atlanta, Ga. 30326. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Imported coffee*, in vehicles equipped with mechanical refrigerations, from Miami, Fla., to Los Angeles and its commercial zone, and points in the Los

Angeles Harbor Zone as defined by the Commission, and San Francisco and Oakland, Calif., and their commercial zones, for 180 days. SUPPORTING SHIPPER: Econocaribe Consolidators, Inc., 2929 NW 73rd St., Miami, Fla. 33147. SEND PROTESTS TO: District Supervisor G. H. Fauss, Jr., Interstate Commerce Commission, Bureau of Operations, Box 35008, 400 W. Bay Street, Jacksonville, Fla. 32202.

No. MC-123099 (Sub-No. 7 TA), filed June 7, 1974. Applicant: HOWARD ANDERSON, doing business as ANDERSON'S TRUCKING COMPANY, R.D. 4, Box 11, Wellsboro, Pa. 16901. Applicant's representative: S. Michael Richards, 44 North Avenue, Webster, N.Y. 14580. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Malt beverages*, in containers, from Rochester, N.Y., to points in Columbia, Snyder, Schuylkill, Montour, Union, and Susquehanna Counties, Pa., for 180 days. SUPPORTING SHIPPER: B. K. Norris, 216 Erie Street, Susquehanna, Pa. 18847, and Durdach Bros., Inc., Paxinos, Pa. SEND PROTESTS TO: Paul J. Kenworthy, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 309 U.S. Post Office Building, Scranton, Pa. 18503.

No. MC-124170 (Sub-No. 36 TA), filed June 7, 1974. Applicant: FROSTWAYS, INC., 3900 Orleans, Detroit, Mich. 48207. Applicant's representative: William J. Boyd, 2900 South LaSalle St., Chicago, Ill. 60603. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas and agricultural commodities exempt from economic regulations under Section 203(b)(6) of the Act*, when transported in mixed loads with bananas, from Mobile, Ala., to points in Connecticut, Delaware, Illinois, Indiana, Kentucky, Maine, Massachusetts, Maryland, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Tennessee, Vermont, Virginia, West Virginia, and the District of Columbia, for 180 days. SUPPORTING SHIPPER: Del Monte Banana Company, 1201 Brickell Avenue, Miami, Fla. 33101. SEND PROTESTS TO: Melvin F. Kirsch, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 1110 Broderick Tower, 10 Witherell Avenue, Detroit, Mich. 48226.

No. MC 128220 (Sub-No. 11 TA), filed June 7, 1974. Applicant: RALPH LATHAM, doing business as LATHAM TRUCKING COMPANY, P.O. Box 508, Burnside, Ky. 42519. Applicant's representative: John M. Nader, P.O. Box 4, Bowling Green, Ky. 42101. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Charcoal, charcoal briquettes, vermiculite, hickory chips, fireplace logs, lighter fluid and spices and sauces used in outdoor cooking*, from the plant site and storage facilities of Kingsford Charcoal, at Burnside, Ky., to points in Connecticut, Delaware, Maine, Mary-

land, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont, for 180 days. SUPPORTING SHIPPER: Levern N. Forseth, Traffic Manager, Kingsford Company, P.O. Box 1033, Louisville, Ky. 40201. SEND PROTESTS TO: R. W. Schneider, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 222 Bakhaus Building, 1500 West Main Street, Lexington, Ky. 40505.

No. MC 129282 (Sub-No. 21 TA), filed June 5, 1974. Applicant: BERRY TRANSPORTATION, INC., P.O. Box 2147, Longview, Tex. 75601. Applicant's representative: Fred S. Berry, P.O. Box 2147, Longview, Tex. 75601. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Malt beverages and materials and supplies used in the manufacture and distribution thereof*, from Galveston, Tex., and New Orleans, La., to points in Arkansas, Louisiana, and Mississippi.

NOTE.—Carrier does not intend to tack authority, for 180 days. SUPPORTING SHIPPER: Falstaff Brewing Corp., 5050 Oakland Avenue, St. Louis, Mo. 63166. SEND PROTESTS TO: District Supervisor Gerald T. Holland, Interstate Commerce Commission, 1100 Commerce Street, Room 13C12, Dallas, Tex. 75202.

No. MC 133119 (Sub-No. 50 TA) (AMENDMENT), filed April 4, 1974, published in the FEDERAL REGISTER issue of April 19, 1974, and republished as amended this issue. Applicant: HEYL TRUCK LINES, INC., 235 Mill Street, P.O. Box 206, Akron, Iowa 51001. Applicant's representatives: Roger Heyl (same address as above) and A. J. Swanson, 521 So. 14 Street (P.O. Box 81849), Lincoln, Nebr. 68501.

NOTE.—The purpose of this republication is to add the state of North Dakota, as a destination point, which was omitted in previous publication. The rest of the application will remain as published in the FEDERAL REGISTER.

No. MC 133574 (Sub-No. 17 TA), filed June 5, 1974. Applicant: TREK EXPRESS LTD., a Corporation, 6036 Metcalf Lane, Shawnee Mission, Kans. 66202. Applicant's representative: Bill Clark, 6025 Metcalf Lane, Shawnee Mission, Kans. 66202. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Bananas and agricultural commodities exempt from economic regulation under Section 203(b)(6) of the Act*, when transported in mixed loads with bananas, from Mobile, Ala., to points in California, Colorado, Illinois, Iowa, Kansas, Minnesota, Missouri, North Dakota, Nebraska, Oklahoma, Oregon, South Dakota, Washington, and Wisconsin, restricted to traffic having an immediate prior move by water, for 180 days. SUPPORTING SHIPPER: Del Monte Banana Company, 1201 Brickell Ave., Miami, Fla. 33101. SEND PROTESTS TO: John V. Barry, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 600 Federal Office

Building, 911 Walnut Street, Kansas City, Mo. 64106.

No. MC 135007 (Sub-No. 42 TA), filed June 7, 1974. Applicant: AMERICAN TRANSPORT, INC., 7850 "F" Street, Omaha, Nebr. 68127. Applicant's representative: Frederick J. Coffman, 521 South 14th Street, P.O. Box 81849, Lincoln, Nebr. 68501. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: *Carpet padding and materials and supplies used in the installation thereof (except commodities in bulk)*, from Grafton, W. Va. and Dyersburg Tenn., to points in Arizona, Arkansas, California, Colorado, Idaho, Iowa, Kansas, Louisiana, Missouri, Montana, Nebraska, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming, under continuing contract with William Volker and Company for 180 days. SUPPORTING SHIPPER: William Volker & Company, W. P. Tarter, Vice President—Transportation, 945 California, Burlingame, Calif. 94010. SEND PROTESTS TO: Carroll Russell, District Supervisor, Bureau of Operations, Interstate Commerce Commission, Suite 620, Union Pacific Plaza Building, 110 North 14th Street, Omaha, Nebr. 68102.

No. MC 138065 (Sub-No. 3 TA), filed June 5, 1974. Applicant: LOUIS BOLOGNA, doing business as LOU BOLE CARPET CARRIERS, 230 Green Street, Brooklyn, N.Y. 11222. Applicant's representative: Michael R. Werner, 2 West 45th Street, New York, N.Y. 10036. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Floor covering and materials, supplies and equipment used in the installation thereof (except commodities in bulk)*, between New York, N.Y., on the one hand, and, on the other, points in Westchester County, N.Y., for 180 days. RESTRICTION: The operations herein are restricted to inside deliveries. SUPPORTING SHIPPERS: Saxony Carpet Co., Inc. 979 3rd Avenue, New York, N.Y. 10022; Kenmore, 979 3rd Avenue, New York, N.Y. 10022; Rosecore Carpet Co., Inc., 979 3rd Avenue, New York, N.Y. 10022; Stark Carpet Corp., 979 3rd Avenue, New York, N.Y. 10022. SEND PROTESTS TO: Marvin Kampel, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 26 Federal Plaza, Rm. 1807, New York, N.Y. 10007.

No. MC 139193 (Sub-No. 10 TA), filed June 5, 1974. Applicant: ROBERTS & OAKE, INC., 208 South LaSalle St., Chicago, Ill. 60604. Applicant's representative: Jacob P. Billig, 1126 16th Street NW, Washington, D.C. 20036. Authority sought to operate as a *contract carrier*, by motor vehicle, over irregular routes, transporting: (1) *Meats, meat products and meat by-products*, as defined by the Commission in Sections A, B, and C of Appendix I to the report in *Descriptions in Motor Certificates*, 61 M.C.C. 209 and

766 (except hides and liquid commodities in bulk), (2) *such commodities as are used by meat packers in the conduct of their business: between the plantsite and storage facilities of John Morrell & Co., Sioux Falls, S. Dak., and points in Illinois and Wisconsin, restricted to traffic transported under contracts with John Morrell & Co., for 180 days. SUPPORTING SHIPPER: Robert L. Lee, Manager, Rates & Services, John Morrell & Company, 208 South LaSalle St., Chicago, Ill. 60604. SEND PROTESTS TO: William J. Gray, Jr., District Supervisor, Bureau of Operations, Interstate Commerce Commission, Everett McKinley Dirksen Building, 219 S. Dearborn St., Room 1086, Chicago, Ill. 60604.*

No. MC 139624 (Sub-No. 2 TA), filed June 7, 1974. Applicant: J. J. MINNEHAN, INC., P.O. Box 369, Rockingham Road, Bellows Falls, Vt. 05101. Applicant's representative: Frederick T. O'Sullivan, 622 Lowell Street, Peabody, Mass. 01960. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *Water*, in bulk, in tank vehicles, from Westerly, R.I., to Groton, Conn., for 180 days. SUPPORTING SHIPPER: General Dynamics Corporation, Electric Boat Division, Eastern Point Road, Groton, Conn. 06340. SEND PROTESTS TO: District Supervisor Paul D. Collins, Interstate Commerce Commission, Bureau of Operations, P.O. Box 548, Montpelier, Vt. 05602.

No. MC 139801 (Sub-No. 1 TA), filed June 7, 1974. Applicant: GARRETT RV TRANSPORT, INC., 301 S. Lake Lamond, Longview, Tex. 75601. Applicant's representative: Austin L. Hatchell, 1102 Perry Brooks Bldg., Austin, Tex. 78701. Authority sought to operate as a *common carrier*, by motor vehicle, over irregular routes, transporting: *recreational camping trailer (excluding mobile homes)*, in truckaway service only, (1) from Grapevine, Tex., to points in Arkansas, Colorado, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, and Tennessee; (2) from Longview, Tex., to points in Alabama, Arkansas, Colorado, Florida, Georgia, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, and Tennessee; and (3) from Waco, Tex., to points in Arkansas, Colorado, Kansas, Louisiana, Mississippi, Missouri, New Mexico, Oklahoma, and Tennessee, for 180 days. Note: Applicant does not intend to tack authority. SUPPORTING SHIPPER: Terry Industries of Texas, Inc., 2901 E. Industrial Road, P.O. Box 1607, Waco, Tex. 76703. SEND PROTESTS TO: District Supervisor Gerald T. Holland, Interstate Commerce Commission, Bureau of Operations, 1100 Commerce Street, Room 13C12, Dallas, Tex. 75202.

WATER CARRIER APPLICATION

No. W-497 (Sub-No. 10 TA), filed June 5, 1974. Applicant: UNITED STATES LINES, INC., One Broadway,

New York, N.Y. 10004. Applicant's representative: Stuart R. Breidbart (same address as applicant). Authority sought to operate as a *common carrier*, by water, transporting: *Passengers and commodities generally*, between the Atlantic Port of Savannah, Ga. and the Pacific coast ports of Los Angeles Harbor and San Francisco, Calif., by regular service in the intercoastal trade via the Panama Canal, for 180 days. SUPPORTING SHIPPERS: There are approximately 13 statements of support attached to the application, which may be examined here at the Interstate Commerce Commission in Washington, D.C., or copies thereof which may be examined at the field office named below. SEND PROTESTS TO: Paul W. Assenza, District Supervisor, Interstate Commerce Commission, Bureau of Operations, 26 Federal Plaza, New York, N.Y. 10007.

By the Commission.

[SEAL] ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14428 Filed 6-21-74; 8:45 am]

FOURTH SECTION APPLICATION FOR RELIEF

JUNE 19, 1974.

An application, as summarized below has been filed requesting relief from the requirements of section 4 of the Interstate Commerce Act to permit common carriers named or described in the application to maintain higher rates and charges at intermediate points than those sought to be established at more distant points.

Protests to the granting of an application must be prepared in accordance with rule 40 of the general rules of practice (49 CFR 1100.40) and filed on or before July 9, 1974.

AGGREGATE-OF-INTERMEDIATES

FSA No. 42843—*Hydrochloric (Muriatic) Acid and Manganese Ore from and to Points in Texas*. Filed by Southwestern Freight Bureau, Agent, (No. B-470), for interested rail carriers. Rates on acid, hydrochloric (muriatic), in tank-car loads, and manganese ore, in carloads, as described in the application, from, to and between points in Texas, over interstate routes through adjoining states.

Grounds for relief—Maintenance of depressed rates published to meet intrastate competition without use of such rates as factors in constructing combination rates.

Tariff—Supplement 52 to Southwestern Freight Bureau, Agent, tariff 87-J (TLFB Series), I.C.C. No. 1159. Rates are published to become effective on July 17, 1974.

By the Commission.

[SEAL] ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14427 Filed 6-21-74; 8:45 am]

[Notice 535]

ASSIGNMENT OF HEARINGS

JUNE 19, 1974.

Cases assigned for hearing, postponement, cancellation or oral argument appear below and will be published only once. This list contains prospective assignments only and does not include cases previously assigned hearing dates. The hearings will be on the issues as presently reflected in the Official Docket of the Commission. An attempt will be made to publish notices of cancellation of hear-

ings as promptly as possible, but interested parties should take appropriate steps to insure that they are notified of cancellation or postponements of hearings in which they are interested. No amendments will be entertained after June 24, 1974.

No. 35976, Commutation Fares, Hudson Transit Lines, Inc., now assigned July 15, 1974, at New York, N.Y., is postponed to September 9, 1974, in Room E-2222, 26 Federal Plaza, New York, New York.

MC-2229 Sub 179, Red Ball Motor Freight, Inc., now assigned July 8, 1974, at Denver, Colo., will be held at the Continental Den-

ver Hotel, Valley Highway and Speer Blvd., instead of in Room 595, Federal Courthouse, 1927 Stout Street.

MC-128383 Sub-44, Pinto Trucking Service, Inc., now assigned July 17, 1974, at Washington, D.C., is postponed indefinitely.

MC-1872 Sub-81, Ashworth Transfer, Inc., and MC-125433 Sub-41, F-B Truck Line Company, now assigned July 15, 1974 at San Francisco, Calif., will be continued to July 22, 1974, at the Airport Marina Hotel, 8601 Lincoln Blvd., Los Angeles, California.

[SEAL]

ROBERT L. OSWALD,
Secretary.

[FR Doc.74-14426 Filed 6-21-74;8:45 am]

CUMULATIVE LIST OF PARTS AFFECTED—JUNE

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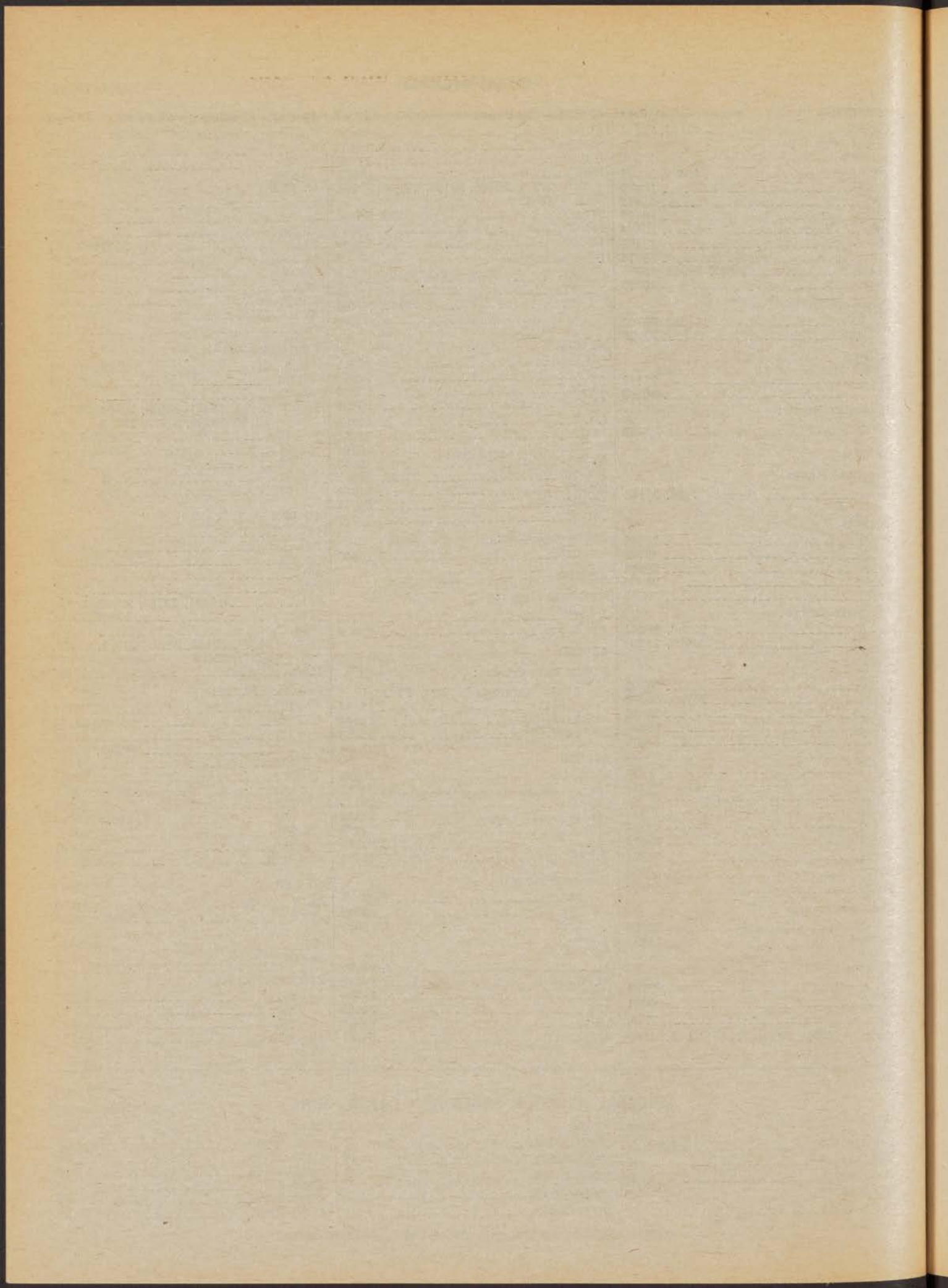
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PART II



DEPARTMENT OF LABOR

Occupational Safety and
Health Administration



CONSTRUCTION SAFETY AND HEALTH REGULATIONS

Title 29—Labor

CHAPTER XVII—OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, DEPARTMENT OF LABOR

PART 1926—OCCUPATIONAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Pursuant to authority in sections 6 and 8(g) of the Williams-Steiger Occupational Safety and Health Act of 1970 (84 Stat. 1593, 1600 (29 U.S.C. 655, 657)), in Secretary of Labor's Order No. 12-71 (36 FR 8754), and in Section 107 of the Contract Work Hours and Safety Standards Act, as amended (83 Stat. 96; 40 U.S.C. 333), Part 1926 of Title 29 Code of Federal Regulations is hereby republished in its entirety. The purpose of this republication is to update the present occupational safety and health standards for construction by incorporating all changes made up to June 3, 1974, and thereby improve their usefulness and facilitate their enforcement.

Since this republication does not make any substantive change in the standards, it is not necessary to provide notice of proposed rulemaking, opportunity for public participation therein, nor any delay in the effective date under either section 6(b) of the Williams-Steiger Occupational Safety and Health Act of 1970 or 5 U.S.C. 553. For the same reason, good cause is found for not following the regular procedure for rule-making and for making this republication effective immediately.

Signed at Washington, D.C. this 28th day of May, 1974.

JOHN STENDER,
Assistant Secretary of Labor.

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Appendix I.

AUTHORITY: Sec. 1, 83 Stat. 96, 97, adding sec. 107 to Pub. L. 87-581, 76 Stat. 357; (40 U.S.C. 333).

SOURCE: 37 FR 27503 and 37 FR 27599, Dec. 16, 1972, unless otherwise noted.

Subpart A—General

§ 1926.1 Purpose and scope.

(a) This part sets forth the safety and health standards promulgated by the Secretary of Labor under section 107 of the Contract Work Hours and Safety Standards Act. The standards are published in Subpart C of this part and following subparts.

(b) Subpart B of this part contains statements of general policy and interpretations of section 107 of the Contract Work Hours and Safety Standards Act having general applicability.

§ 1926.2 Variances from safety and health standards.

(a) Variances from standards which are, or may be, published in this part may be granted under the same circumstances whereunder variances may be granted under section 6(b)(A) or 6(d) of the Williams-Steiger Occupational Safety and Health Act of 1970 (29 U.S.C. 65). The procedures for the granting of variances and for related relief under this part are those published in Part 1905 of this title.

(b) Any requests for variances under this section shall also be considered requests for variances under the Williams-Steiger Occupational Safety and Health Act of 1970, and any requests for variances under Williams-Steiger Occupational Safety and Health Act with respect to construction safety or health standards shall be considered to be also variances under the Construction Safety Act. Any variance from a construction safety or health standard which is contained in this part and which is incorporated by reference in Part 1910 of this title shall be deemed a variance from the standard under both the Construction Safety Act and the Williams-Steiger Occupational Safety and Health Act of 1970.

§ 1926.3 Inspections—right of entry.

(a) It shall be a condition of each contract which is subject to section 107 of the Contract Work Hours and Safety Standards Act that the Secretary of Labor or any authorized representative shall have a right of entry to any site of contract performance for the following purposes:

(1) To inspect or investigate the matter of compliance with the safety and health standards contained in Subpart C of this part and following subparts; and

(2) To carry out the duties of the Secretary under section 107(b) of the Act.

(b) For the purpose of carrying out his investigative duties under the Act, the Secretary of Labor may, by agreement, use with or without reimbursement the services, personnel, and facilities of any State or Federal agency. Any agreements with States under this section shall be similar to those provided for under the Walsh-Healey Public Contracts Act under 41 CFR Part 50-205.

§ 1926.4 Rules of practice for administrative adjudications for enforcement of safety and health standards.

(a) The rules of practice for administrative adjudications for the enforcement of the safety and health standards contained in Subpart C of this part and the following subparts shall be the same as those published in Part 6 of this title with respect to safety and health violations of the Service Contract Act

of 1965 (69 Stat. 1035), except as provided in paragraph (b) of this section.

(b) In the case of debarment, the findings required by section 107(d) of the Act shall be made by the hearing examiner or the Assistant Secretary of Labor for Occupational Safety and Health, as the case may be. Whenever, as provided in section 107(d)(2), a contractor requests termination of debarment before the end of the 3-year period prescribed in that section, the request shall be filed in writing with the Assistant Secretary of Labor for Occupational Safety and Health who shall publish a notice in the FEDERAL REGISTER that the request has been received and afford interested persons an opportunity to be heard upon the request, and thereafter the provisions of Part 6 of this title shall apply with respect to prehearing conferences, hearings and related matters, and decisions and orders.

Subpart B—General Interpretations

§ 1926.10 Scope of subpart.

(a) This subpart contains the general rules of the Secretary of Labor interpreting and applying the construction safety and health provisions of section 107 of the Contract Work Hours and Safety Standards Act (83 Stat. 96). Section 107 requires as a condition of each contract which is entered into under legislation subject to Reorganization Plan Number 14 of 1950 (64 Stat. 1267), and which is for construction, alteration, and/or repair, including painting and decorating, that no contractor or subcontractor contracting for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety, as determined under construction safety and health standards promulgated by the Secretary by regulation.

§ 1926.11 Coverage under section 103 of the act distinguished.

(a) Coverage under section 103. It is important to note that the coverage of section 107 differs from that for the overtime requirements of the Contract Work Hours and Safety Standards Act. The application of the overtime requirements is governed by section 103, which, subject to specific exemptions, includes (1) Federal contracts requiring or involving the employment of laborers or mechanics (thus including, but not limited to, contracts for construction), and (2) contracts assisted in whole or in part by Federal loans, grants, or guarantees under any statute "providing wage standards for such work." The statutes "providing wage standards for such work" include statutes for construction which require the payment of minimum wages in accordance with prevailing wage findings by the Secretary of Labor in accordance with the Davis-Bacon Act. A provision to section 103 excludes from the overtime requirements work where the Federal assistance is only in the form of a loan guarantee or insurance.

(b) *Coverage under section 107.* To be covered by section 107 of the Contract Work Hours and Safety Standards Act, a contract must be one which (1) is entered into under a statute that is subject to Reorganization Plan No. 14 of 1950 (64 Stat. 1267); and (2) is for "construction, alteration, and/or repair, including painting and decorating."

§ 1926.12 Reorganization Plan No. 14 of 1950.

(a) *General provisions.* Reorganization Plan No. 14 of 1950 relates to the prescribing by the Secretary of Labor of "appropriate standards, regulations, and procedures" with respect to the enforcement of labor standards under Federal and federally assisted contracts which are subject to various statutes subject to the Plan. The rules of the Secretary of Labor implementing the Plan are published in Part 5 of this title. Briefly, the statutes subject to the Plan include the Davis-Bacon Act, including its extension to Federal-aid highway legislation subject to 23 U.S.C. 113, and other statutes subject to the Plan by its original terms, statutes by which the Plan is expressly applied, such as the Contract Work Hours Standards Act by virtue of section 104(d) thereof.

(b) *The Plan.* (1) The statutes subject to Reorganization Plan No. 14 of 1950 are cited and briefly described in the remaining subparagraphs of this paragraph. These descriptions are general in nature and not intended to convey the full scope of the work to be performed under each statute. The individual statutes should be resorted to for a more detailed scope of the work.

(2) *Federal-Aid Highway Acts.* The provisions codified in 23 U.S.C. 113 apply to the initial construction, reconstruction, or improvement work performed by contractors or subcontractors on highway projects on the Federal-aid systems, the primary and secondary, as well as their extensions in urban areas, and the Interstate System, authorized under the highway laws providing for the expenditure of Federal funds upon the Federal-aid system. As cited in 41 Op. A.G. 488, 496, the Attorney General ruled that the Federal-Aid Highway Acts are subject to Reorganization Plan No. 14 of 1950.

(3) *National Housing Act (12 U.S.C. 1713, 1715a, 1715e, 1715k, 1715l(d) (3) and (4), 1715v, 1715w, 1715x, 1743, 1747, 1748, 1748h-2, 1750g, 1715l(h) (1), 1715z (j) (1), 1715z-1, 1715y(d), Subchapter 1x-A and 1x-B, 1715z-7).* This act covers construction which is financed with assistance by the Federal Government through programs of loan and mortgage insurance for the following purposes:

(i) *Rental Housing.*—Section 1713 provides mortgage and insurance on rental housing of eight or more units and on mobile-home courts.

(ii) *Section 1715a—Repealed.*

(iii) *Cooperative Housing.*—Section 1715e authorizes mortgage insurance on cooperative housing of five or more units as well as supplementary loans for improvement of repair or resale of memberships.

(iv) *Urban Renewal Housing.*—Section 1715k provides mortgage insurance on single family or multifamily housing in approved urban renewal areas.

(v) *Low or Moderate Income Housing.*—Section 1715L(d) (3) and (4) insures mortgages on low-cost single family or multifamily housing.

(vi) *Housing for Elderly.*—Section 1715v provides mortgage insurance on rental housing for elderly or handicapped persons.

(vii) *Nursing Homes.*—Section 1715w authorizes mortgage insurance on nursing home facilities and major equipment.

(viii) *Experimental Housing.*—Section 1715x provides mortgage insurance on single family or multifamily housing with experimental design of materials.

(ix) *War Housing Insurance.*—Section 1743 not active.

(x) *Yield Insurance.*—Section 1747 insures investment returns on multifamily housing.

(xi) *Armed Services Housing.*—Section 1748b to assist in relieving acute shortage and urgent need for family housing at or in areas adjacent to military installations.

(xii) *Defense Housing for Impacted Areas.*—Section 1748h-2 provides mortgage insurance on single family or multifamily housing for sale or rent primarily to military or civilian personnel of the Armed Services, National Aeronautics and Space Administration, or Atomic Energy Commission.

(xiii) *Defense Rental Housing.*—Section 1750g provides for mortgage insurance in critical defense housing areas.

(xiv) *Rehabilitation.*—Section 1715L (h) (1) provides mortgage insurance for nonprofit organizations to finance the purchase and rehabilitation of deteriorating or substandard housing for subsequent resale to low-income home purchasers. There must be located on the property five or more single family dwellings of detached, semidetached, or row construction.

(xv) *Homeowner Assistance.*—Section 1715Z(j) (1) authorizes mortgage insurance to nonprofit organizations or public bodies or agencies executed to finance sale of individual dwellings to lower income individuals or families. Also includes the rehabilitation of such housing if it is deteriorating or substandard for subsequent resale to lower income home purchasers.

(xvi) *Rental Housing Assistance.*—Section 1715Z-1 authorizes mortgage insurance and interest reduction payments on behalf of owners of rental housing projects designed for occupancy by lower income families. Payments are also authorized for certain State or locally aided projects.

(xvii) *Condominium Housing.*—Section 1715y(d) provides mortgage insurance on property purchased for the development of building sites. This includes waterlines and water supply installations, sewer lines and sewage disposal installations, steam, gas, and electrical lines and installations, roads, streets, curbs, gutters, sidewalks, storm drainage facilities, and other installations or work.

(xviii) *Group Medical Practice Facilities.*—Subchapter LX-B authorizes mortgage insurance for the financing of construction and equipment, of facilities for group practice of medicine, optometry, or dentistry.

(xix) *Nonprofit Hospitals.*—1715z-7 authorizes mortgage insurance to cover new and rehabilitated hospitals, including initial equipment.

(4) *Hospital Survey and Construction Act, as amended by the Hospital and Medical Facilities Amendments of 1964 (42 U.S.C. 291e).* The provisions of this Act cover construction contracts made by State or local authorities or private institutions under Federal grant-in-aid programs for the construction of hospitals and other medical facilities.

(5) *Federal Airport Act (49 U.S.C. 1114(b)).* The act provides grant-in-aid funds for airport construction limited to general site preparation runways, taxiways, aprons, lighting appurtenant thereto, and fire, rescue, and maintenance buildings. The act excludes construction intended for use as a public parking facility for passenger automobiles and the cost of construction of any part of an airport building except such of those buildings or parts of buildings to house facilities or activities directly related to the safety of persons at the airport.

(6) *Housing Act of 1949 (42 U.S.C. 1459).* Construction contracts awarded by local authorities financed with the assistance of loans and grants from the Federal Government. The construction programs are for slum clearance and urban renewal which includes rehabilitation grants, neighborhood development programs, neighborhood renewal plans, community renewal, demolition projects, and assistance for blighted areas. See the Housing Act of 1964, No. 21 below, concerning financial assistance for low-rent housing for domestic farm labor.

(7) *School Survey and Construction Act of 1950 (20 U.S.C. 636).* This act provides for a Federal grant-in-aid program to assist in the construction of schools in federally affected areas.

(8) *Defense Housing & Community Facilities & Services Act of 1951 (42 U.S.C. 1592i).* Inactive Program.

(9) *United States Housing Act of 1937 (42 U.S.C. 1416).* This statute covers the construction of low-rent public housing and slum clearance projects awarded by local authorities. These projects are financed with the assistance of loans and grants from the Federal Government. The slum clearance is the demolition and removal of buildings from any slum area to be used for a low-rent housing project.

(10) *Federal Civil Defense Act of 1950 (50 U.S.C. App. 2281).* This act provides for Federal assistance to the several States and their political subdivisions in the field of civil defense which includes procurement, construction, leasing, or renovating of materials and facilities.

(11) *Delaware River Basin Compact (sec. 15.1, 75 Stat. 714).* This joint resolution creates, by intergovernmental compact between the United States, Delaware, New Jersey, New York, and Pennsylvania, a regional agency for plan-

ning, conservation, utilization, development, management and control of the water and related sources of the Delaware River.

(12) *Cooperative Research Act* (20 U.S.C. 332a(c)). This act provides Federal grants to a university, college, or other appropriate public or nonprofit private agency or institution for part or all of the cost of constructing a facility for research or for research and related purposes. Research and related purposes means research, research training, surveys, or demonstrations in the field of education, or the dissemination of information derived therefrom, or all of such activities, including (but without limitation) experimental schools, except that such term does not include research, research training, surveys, or demonstrations in the field of sectarian instruction or the dissemination of information derived therefrom. Construction includes new buildings, and the acquisition, expansion, remodeling, replacement, and alteration of existing buildings and the equipping of new buildings and existing buildings.

(13) *Health Professions Educational Assistance Act of 1963* (42 U.S.C. 292d (c) (4), 293a(c) (5)). The provisions of this act provide for grants to assist public and nonprofit medical, dental, and similar schools for the construction, expansion, or renovation of teaching facilities.

(14) *Mental Retardation Facilities Construction Act* (42 U.S.C. 295(a) (2) (D), 2662(5), 2675(a) (5)). This act authorizes Federal financial assistance in the construction of centers for research on mental retardation and related aspects of human development, of university-affiliated facilities for the mentally retarded and of facilities for the mentally retarded.

(15) *Community Mental Health Centers Act* (42 U.S.C. 2685(a) (5)). This act authorizes Federal grants for the construction of public and other nonprofit community mental health centers.

(16) *Higher Education Facilities Act of 1963* (20 U.S.C. 753). This act authorizes the grant or loan of Federal funds to assist public and other nonprofit institutions of higher education in financing the construction, rehabilitation, or improvement of academic and related facilities in undergraduate and graduate schools.

(17) *Vocational Educational Act of 1963* (20 U.S.C. 35f). This act provides for Federal grants to the various States for construction of area vocational education school facilities.

(18) *Library Services and Construction Act* (20 U.S.C. 355e(a) (4)). This act provides for Federal assistance to the various States for the construction of public libraries.

(19) *Urban Mass Transportation Act of 1954* (49 U.S.C. 1609). This act provides for grants and loans to assist States and local public bodies and agencies thereof in financing the acquisition, construction, reconstruction, and improvement of facilities and equipment for use, by operation or lease or otherwise, in

mass transportation service in urban areas and in coordinating such service with highway and other transportation in such areas.

(20) *Economic Opportunity Act of 1964* (42 U.S.C. 2947). This act covers construction which is financed with assistance of the Federal Government for the following purposes:

(i) Authorizes Federal assistance for construction of projects, buildings and works which will provide young men and women in rural and urban residential centers with education, vocational training, and useful work experience (Title I).

(ii) Authorizes financial assistance for construction work planned and carried out at the community level for anti-poverty programs (Title II):

(a) Authorizes loans to low income rural families by assisting them to acquire or improve real estate or reduce encumbrances or erect improvements thereon, and to participate in cooperative associations and/or to finance non-agricultural enterprises which will enable such families to supplement their income (Title III);

(b) Authorizes loans to local cooperative associations furnishing essential processing, purchasing, or marketing services, supplies, or facilities predominantly to low-income rural families (Title III);

(c) Authorizes financial assistance to States, political subdivisions of States, public and nonprofit agencies, institutions, organizations, farm associations, or individuals in establishing housing, sanitation, education, and child day-care programs for migrants and other seasonally employed agricultural employees and their families (Title III).

(iii) Authorizes loans or guarantees loans to small businesses for construction work (Title IV).

(iv) Authorizes the payment of the cost of experimental, pilot, or demonstration projects to foster State programs providing construction work experience or training for unemployed fathers and needy people (Title V).

(21) *Housing Act of 1964* (42 U.S.C. 1486(f); 42 U.S.C. 1452b(e)). Provides financial assistance for low-rent housing for domestic farm labor. The Act further provides for loans, through public or private agencies, where feasible, to owners or tenants of property in urban renewal areas to finance rehabilitation required to conform the property to applicable code requirements or carry out the objectives of the urban renewal plan for the area.

(22) *The Commercial Fisheries Research and Development Act of 1964* (16 U.S.C. 779e(b)). This act authorizes financial assistance to State agencies for construction projects designed for the research and development of the commercial fisheries resources of the Nation.

(23) *The Nurse Training Act of 1964* (42 U.S.C. 296a(b) (5)). This act provides for grants to assist in the construction of new facilities for collegiate, associate degree, and diploma schools of nursing, or replacement or rehabilitation of existing facilities of such schools.

(24) *Elementary and Secondary Education Act of 1965* (20 U.S.C. 241i, 848). The purpose of the act is to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families for construction in connection with the expansion or improvement of their educational programs.

(25) *Federal Water Pollution Control Act, as amended by the Water Quality Act of 1965* (3 U.S.C. 466e(g)). Provides for financial assistance to States or municipalities for construction of facilities in connection with the prevention and control of water pollution. This includes projects that will control the discharge into any waters of untreated or inadequately treated sewage.

(26) *Appalachian Regional Development Act of 1965* (40 U.S.C. App. 402). Authorizes Federal assistance in the construction of an Appalachian development highway system; construction of multi-county demonstration health facilities, hospitals, regional health, diagnostic and treatment centers, and other facilities for health; seal and fill voids in abandoned mines and to rehabilitate strip mine areas; construction of school facilities for vocational education; and to assist in construction of sewage treatment works.

(27) *National Technical Institute for the Deaf Act* (20 U.S.C. 684(b) (5)). Provides for financial assistance for institutions of higher education for the establishment, construction, including equipment and operation, of a National Institution for the Deaf.

(28) *Housing Act of 1959* (12 U.S.C. 1701(g) (c) (3)). This act authorizes loans to nonprofit corporations to be used for the construction of housing and related facilities for elderly families. Also, the provisions of the act provide for rehabilitation, alteration, conversion or improvement of existing structures which are otherwise inadequate for proposed dwellings used by such families.

(29) *College Housing Act of 1950, as amended* (12 U.S.C. 1749a(f)). This act provides for Federal loans to assist educational institutions in providing housing and other educational facilities for students and faculties.

(30) *Housing and Urban Development Act of 1965* (42 U.S.C. 1500c-3, 3107). This act provides for Federal assistance for the following purposes:

(i) Grants to States and local public bodies to assist in any construction work to be carried out under the open-space land and urban beautification provisions contained therein. It provides for parks and recreation areas, conservation of land and other natural resources, and historical and scenic purposes.

(ii) Grants to local public bodies and agencies to finance specific projects for basic public water facilities (including works for the storage, treatment, purification, and distribution of water), and for basic public sewer facilities (other than "treatment works" as defined in the Federal Water Pollution Control Act).

(iii) Grants to any local public body or agency to assist in financing neigh-

borhood facilities. These facilities must be necessary for carrying out a program of health, recreational, social, or similar community service and located so as to be available for the use of the area's low or moderate income residents.

(31) *National Foundation on the Arts and the Humanities Act of 1965* (20 U.S.C. 954(k)). The act establishes the "National Foundation on the Arts and the Humanities" which may provide matching grants to groups (nonprofit organizations and State and other public organizations) and to individuals engaged in creative and performing arts for the entire range of artistic activity, including construction of necessary facilities.

(32) *Public Works and Economic Development Act of 1965* (42 U.S.C. 3222). This act provides for Federal assistance for the following purposes:

(i) Grants for the acquisition or development of land or improvements for public works or development facility usage in redevelopment areas. It authorizes loans to assist in financing the purchase or development of land for public works which will assist in the creation of long-term employment opportunities in the area.

(ii) Loans for the purchase or development of land and facilities (including machinery and equipment) for industrial or commercial usage within redevelopment areas; guarantee of loans for working capital made to private borrowers by private lending institutions in connection with direct loan projects; and to contract to pay to, or on behalf of, business entities locating in redevelopment areas, a portion of the interest costs which they incur in financing their expansions from private sources.

(iii) Loans and grants to create economic development centers within designated county economic development districts.

(33) *High-Speed Ground Transportation Study* (40 U.S.C. 1636(b)). This act provides for financial assistance for construction activities in connection with research and development of different forms of high-speed ground transportation and demonstration projects relating to intercity rail passenger service.

(34) *Heart Disease, Cancer and Stroke Amendments of 1965* (42 U.S.C. 299(b)(4)). This act provides for grants to public or nonprofit private universities, medical schools, research institutions, hospitals, and other public and nonprofit agencies and institutions, or associations thereof to assist in construction and equipment of facilities in connection with research, training, demonstration of patient care, diagnostic and treatment related to heart disease, cancer, stroke, and other major diseases.

(35) *Mental Retardation Facilities and Community Mental Health Centers Construction Act Amendments of 1965* (20 U.S.C. 618(g)). These provisions provide for grants to institutions of higher education for construction of facilities for research or for research and related purposes relating to education for mentally retarded, hard of hearing, deaf, speech

impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired children who by reason thereof require special education.

(36) *Vocational Rehabilitation Act Amendments of 1965* (29 U.S.C. 41a(b)(4)). This act authorizes grants to assist in meeting the costs of construction of public or other nonprofit workshops and rehabilitation facilities.

(37) *Clean Air and Solid Waste Disposal Acts* (42 U.S.C. 3256). This act provides for financial assistance to public (Federal, State, interstate, or local) authorities, agencies, and institutions, private agencies and institutions, and individuals in the construction of facilities for solid-waste disposal. The term construction includes the installation of initial equipment.

(38) *Medical Library Assistance Act of 1965* (42 U.S.C. 280b-3(b)(3)). This act provides for grants to public or private non-profit agencies or institutions for the cost of construction of medical library facilities.

(39) *Veterans Nursing Home Care Act* (38 U.S.C. 5035(a)(8)). The construction industry health and safety standards do not apply to this act since it is not subject to Reorganization Plan No. 14 of 1950.

(40) *National Capital Transportation Act of 1965* (40 U.S.C. 682(b)(4)). This act provides for Federal assistance to the National Capital Transportation Agency for construction of a rail rapid transit system and related facilities for the Nation's Capital.

(41) *Alaska Centennial—1967* (80 Stat. 82). The program under this legislation has expired.

(42) *Model Secondary School for the Deaf Act* (80 Stat. 1028). This act provides for funds to establish and operate, including construction and initial equipment of new buildings, expansion, remodeling, and alteration of existing buildings and equipment thereof, a model secondary school for the deaf to serve the residents of the District of Columbia and nearby States.

(43) *Allied Health Professions Personnel Training Act of 1966* (42 U.S.C. 295h(b)(2)(E)). This act provides for grants to assist in the construction of new facilities for training centers for allied health professions, or replacement or rehabilitation of existing facilities for such centers.

(44) *Demonstration Cities and Metropolitan Development Act of 1966* (42 U.S.C. 3310; 12 U.S.C. 1715c; 42 U.S.C. 1416). This act provides for Federal assistance for the following purposes:

(i) Grants to assist in the construction, rehabilitation, alteration, or repair of residential property only if such residential property is designed for residential use for eight or more families to enable city demonstration agencies to carry out comprehensive city demonstration programs (42 U.S.C. 3310).

(ii) Amends the National Housing Act (12 U.S.C. 1715c) and the Housing Act of 1937 (42 U.S.C. 1416). See these acts for coverage.

(45) *Air Quality Act of 1967* (42 U.S.C. 1857f-3). This act provides for Federal

assistance to public or nonprofit agencies, institutions, and organizations and to individuals, and contracts with public or private agencies, institutions, or persons for construction of research and development facilities and demonstration plants relating to the application of preventing or controlling discharges into the air of various types of pollutants.

(46) *Elementary and Secondary Education Amendments of 1967* (Title VII—Bilingual Education Act) (20 U.S.C. 880b-6). This act provides for Federal assistance to local educational agencies or to an institution of higher education applying jointly with a local educational agency for minor remodeling projects in connection with bilingual education programs to meet the special needs of children with limited English-speaking ability in the United States.

(47) *Vocational Rehabilitation Amendments of 1967* (29 U.S.C. 42a(c)(3)). This act authorizes Federal assistance to any public or nonprofit private agency or organization for the construction of a center for vocational rehabilitation of handicapped individuals who are both deaf and blind which shall be known as the National Center for Deaf-Blind Youths and Adults. Construction includes new buildings and expansion, remodeling, alteration and renovation of existing buildings, and initial equipment of such new, newly acquired, expanded, remodeled, altered, or renovated buildings.

(48) *National Visitor Center Facilities Act of 1968* (40 U.S.C. 808). This act authorizes agreements and leases with the owner of property in the District of Columbia known as Union Station for the use of all or a part of such property for a national visitor center to be known as the National Visitor Center. The agreements and leases shall provide for such alterations of the Union Station Building as necessary to provide adequate facilities for visitors. They also provide for the construction of a parking facility, including necessary approaches and ramps.

(49) *Juvenile Delinquency Prevention and Control Act of 1968* (42 U.S.C. 3843). This act provides for Federal grants to State, county, municipal, or other public agency or combination thereof for the construction of facilities to be used in connection with rehabilitation services for the diagnosis, treatment, and rehabilitation of delinquent youths and youths in danger of becoming delinquent.

(50) *Housing and Urban Development Act of 1968* (including *New Communities Act of 1968*) (42 U.S.C. 3909). This act provides for Federal assistance for the following purposes:

(i) Guarantees, and commitments to guarantee, the bonds, debentures, notes, and other obligations issued by new community developers to help finance new community development projects.

(ii) Amends section 212(a) of the National Housing Act, adding section 236 for "Rental Housing for Lower Income Families" and section 242 "Mortgage Insurance for Nonprofit Hospitals" thereto.

(51) *Public Health Service Act Amendment (Alcoholic and Narcotic Addict Rehabilitation Amendments of 1968)* (42

U.S.C. 2681, et seq.). This act provides for grants to a public and nonprofit private agency or organization for construction projects consisting of any facilities (including post-hospitalization treatment facilities for the prevention and treatment of alcoholism or treatment of narcotic addicts.)

(52) *Vocational Education Amendments of 1968* (20 U.S.C. 1246). This act provides for grants to States for the construction of area vocational education school facilities. The act further provides grants to public educational agencies, organizations, or institutions for construction of residential schools to provide vocational education for the purpose of demonstrating the feasibility and desirability of such schools. The act still further provides grants to State boards, to colleges and universities, to public educational agencies, organizations or institutions to reduce the cost of borrowing funds for the construction of residential schools and dormitories.

(53) *Postal Reorganization Act* (39 U.S.C. 410(d)(2)). This Act provides for construction, modification, alteration, repair, and other improvements of postal facilities located in leased buildings.

(54) *Airport and Airway Development Act of 1970* (Public Law 91-258, section 52(b)(7)). This Act provides for Federal financial assistance to States and localities for the construction, improvement, or repair of public airports.

(55) (i) *Public Law 91-230*. This Act provides for federal financial assistance to institutions of higher learning for the construction of a National Center on Educational Media and Materials for the Handicapped. The program under this statute expires on July 1, 1971. Public Law 91-230, section 662(1).

(ii) *Education of the Handicapped Act* (20 U.S.C. 12326, 1404(a)). This Act provides for financial assistance to States for construction, expansion, remodeling, or alteration of facilities for the education of handicapped children at the preschool, elementary school, and secondary school levels.

(56) *Housing and Urban Development Act of 1970* (Public Law 91-609, section 707(b)). This Act provides for grants to States and local public agencies to help finance the development of open-space or other land in urban areas for open-space uses. This Act becomes effective on July 1, 1971.

(57) *Developmental Disabilities Services and Facilities Construction Amendments of 1970* (Public Law 91-517, section 135(a)(5)). This Act authorizes grants to States for construction of facilities for the provision of services to persons with developmental disabilities who are unable to pay for such services.

(58) *Rail Passenger Service Act of 1970* (Public Law 91-518, section 405(d)). This statute provides that the National Railroad Passenger Corporation may construct physical facilities necessary to intercity rail passenger operations within the basic national rail passenger system designated by the Secretary of Transportation.

(c) *VA and FHA housing*. In the course of the legislative development of

section 107, it was recognized that section 107 would not apply to housing construction for which insurance was issued by the Federal Housing Authority and Veterans' Administration for individual home ownership. Concerning construction under the National Housing Act, Reorganization Plan No. 14 of 1950 applies to construction which is subject to the minimum wage requirements of section 212(a) thereof (12 U.S.C. 1715c).

§ 1926.13 Interpretation of statutory terms.

(a) The terms "construction," "alteration," and "repair" used in section 107 of the Act are also used in section 1 of the Davis-Bacon Act (40 U.S.C. 276a), providing minimum wage protection on Federal construction contracts, and section 1 of the Miller Act (40 U.S.C. 270a), providing performance and payment bond protection on Federal construction contracts. Similarly, the terms "contractor" and "subcontractor" are used in those statutes, as well as in Copeland (Anti-Kickback) Act (40 U.S.C. 276c) and the Contract Work Hours and Safety Standards Act itself, which apply concurrently with the Miller Act and the Davis-Bacon Act on Federal construction contracts and also apply to most federally assisted construction contracts. The use of the same or identical terms in these statutes which apply concurrently with section 107 of the Act have considerable precedential value in ascertaining the coverage of section 107.

(b) It should be noted that section 1 of the Davis-Bacon Act limits minimum wage protection to laborers and mechanics "employed directly" upon the "site of the work." There is no comparable limitation in section 107 of the Act. Section 107 expressly requires as a self-executing condition of each covered contract that no contractor or subcontractor shall require "any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety" as these health and safety standards are applied in the rules of the Secretary of Labor.

(c) The term "subcontractor" under section 107 is considered to mean a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. Cf. *MacEvoy Co. v. United States*, 322 U.S. 102, 108-9 (1944). A person who undertakes to perform a portion of a contract-involving the furnishing of supplies or materials will be considered a "subcontractor" under this part and section 107 if the work in question involves the performance of construction work and is to be performed: (1) Directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to

be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." Generally, the furnishing of prestressed concrete beams and prestressed structural steel would be considered manufacturing; therefore a supplier of such materials would not be considered a "subcontractor." An example of material supplied "for the specific project on a customized basis" as that phrase is used in this section would be ventilating ducts, fabricated in a shop away from the construction jobsite and specifically cut for the project according to design specifications. On the other hand, if a contractor buys standard size nails from a foundry, the foundry would not be a covered "subcontractor." Ordinarily a contract for the supplying of construction equipment to a contractor would not, in and of itself, be considered a "subcontractor" for purposes of this part.

§ 1926.14 Federal contract for "mixed" types of performance.

(a) It is the intent of the Congress to provide safety and health protection of Federal, federally financed, or federally assisted construction. See, for example, H. Report. No. 91-241, 91st Cong., first session, p. 1 (1969). Thus, it is clear that when a Federal contract calls for mixed types of performance, such as both manufacturing and construction, section 107 would apply to the construction. By its express terms, section 107 applies to a contract which is "for construction, alteration, and/or repair." Such a contract is not required to be exclusively for such services. The application of the section is not limited to contracts which permit an overall characterization as "construction contracts." The text of section 107 is not so limited.

(b) When the mixed types of performances include both construction and manufacturing, see also § 1926.15(b) concerning the relationship between the Walsh-Healey Public Contracts Act and section 107.

§ 1926.15 Relationship to the Service Contract Act; Walsh-Healey Public Contracts Act.

(a) A contract for "construction" is one for nonpersonal service. See, e.g., 41 CFR 1-1.208. Section 2(e) of the Service Contract Act of 1965 requires as a condition of every Federal contract (and bid specification therefor) exceeding \$2,500, the "principal purpose" of which is to furnish services to the United States through the use of "service employees," that certain safety and health standards be met. See 29 CFR Part 1925, which contains the Department rules concerning these standards. Section 7 of the Service Contract Act provides that the Act shall not apply to "any contract of the United States or District of Columbia for construction, alteration, and/or repair, including painting and decorating of public buildings or public works." It is clear from the legislative history of section 107 that no gaps in coverage between the two statutes are intended.

(b) The Walsh-Healey Public Contracts Act requires that contracts entered into by any Federal agency for the manufacture or furnishing of materials, supplies, articles, and equipment in any amount exceeding \$10,000 must contain, among other provisions, a requirement that "no part of such contract will be performed nor will any of the materials, supplies, articles or equipment to be manufactured or furnished under said contract be manufactured or fabricated in any plants, factories, buildings, or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of said contract." The rules of the Secretary concerning these standards are published in 41 CFR Part 50-204, and express the Secretary of Labor's interpretation and application of section 1(e) of the Walsh-Healey Public Contracts Act to certain particular working conditions. None of the described working conditions are intended to deal with construction activities, although such activities may conceivably be a part of a contract which is subject to the Walsh-Healey Public Contracts Act. Nevertheless, such activities remain subject to the general statutory duty prescribed by section 1(e). Section 103(b) of the Contract Work Hours and Safety Standards Act provides, among other things, that the Act shall not apply to any work required to be done in accordance with the provisions of the Walsh-Healey Public Contracts Act.

§ 1926.16 Rules of construction.

(a) The prime contractor and any subcontractors may make their own arrangements with respect to obligations which might be more appropriately treated on a jobsite basis rather than individually. Thus, for example, the prime contractor and his subcontractors may wish to make an express agreement that the prime contractor or one of the subcontractors will provide all required first-aid or toilet facilities, thus relieving the subcontractors from the actual, but not any legal, responsibility (or, as the case may be, relieving the other subcontractors from this responsibility). In no case shall the prime contractor be relieved of overall responsibility for compliance with the requirements of this part for all work to be performed under the contract.

(b) By contracting for full performance of a contract subject to section 107 of the Act, the prime contractor assumes all obligations prescribed as employer obligations under the standards contained in this part, whether or not he subcontracts any part of the work.

(c) To the extent that a subcontractor of any tier agrees to perform any part of the contract, he also assumes responsibility for complying with the standards in this part with respect to that part. Thus, the prime contractor assumes the entire responsibility under the contract and the subcontractor assumes responsibility with respect to his portion of the work. With respect to subcontracted

work, the prime contractor and any subcontractor or subcontractors shall be deemed to have joint responsibility.

(d) Where joint responsibility exists, both the prime contractor and his subcontractor or subcontractors, regardless of tier, shall be considered subject to the enforcement provisions of the Act.

Subpart C—General Safety and Health Provisions

§ 1926.20 General safety and health provisions.

(a) *Contractor requirements.* (1) Section 107 of the Act requires that it shall be a condition of each contract which is entered into under legislation subject to Reorganization Plan Number 14 of 1950 (64 Stat. 1267), as defined in § 1926.12, and is for construction, alteration, and/or repair, including painting and decorating, that no contractor or subcontractor for any part of the contract work shall require any laborer or mechanic employed in the performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety.

(b) *Accident prevention responsibilities.* (1) It shall be the responsibility of the employer to initiate and maintain such programs as may be necessary to comply with this part.

(2) Such programs shall provide for frequent and regular inspections of the job sites, materials, and equipment to be made by competent persons designated by the employers.

(3) The use of any machinery, tool, material, or equipment which is not in compliance with any applicable requirement of this part is prohibited. Such machine, tool, material, or equipment shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

(4) The employer shall permit only those employees qualified by training or experience to operate equipment and machinery.

§ 1926.21 Safety training and education.

(a) *General requirements.* The Secretary shall, pursuant to section 107(f) of the Act, establish and supervise programs for the education and training of employers and employees in the recognition, avoidance and prevention of unsafe conditions in employments covered by the act.

(b) *Employer responsibility.* (1) The employer should avail himself of the safety and health training programs the Secretary provides.

(2) The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury.

(3) Employees required to handle or use poisons, caustics, and other harmful substances shall be instructed regarding the safe handling and use, and be made aware of the potential hazards, personal hygiene, and personal protective measures required.

(4) In job site areas where harmful plants or animals are present, employees who may be exposed shall be instructed regarding the potential hazards, and how to avoid injury, and the first aid procedures to be used in the event of injury.

(5) Employees required to handle or use flammable liquids, gases, or toxic materials shall be instructed in the safe handling and use of these materials and made aware of the specific requirements contained in Subparts D, F, and other applicable subparts of this part.

(6) (i) All employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required. The employer shall comply with any specific regulations that apply to work in dangerous or potentially dangerous areas.

(ii) For purposes of paragraph (b) (6) (i) of this section, "confined or enclosed space" means any space having a limited means of egress, which is subject to the accumulation of toxic or flammable contaminants or has an oxygen deficient atmosphere. Confined or enclosed spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open top spaces more than 4 feet in depth such as pits, tubs, vaults, and vessels.

§ 1926.22 Recording and reporting of injuries. [Reserved]

§ 1926.23 First aid and medical attention.

First aid services and provisions for medical care shall be made available by the employer for every employee covered by these regulations. Regulations prescribing specific requirements for first aid, medical attention, and emergency facilities are contained in Subpart D of this part.

§ 1926.24 Fire protection and prevention.

The employer shall be responsible for the development and maintenance of an effective fire protection and prevention program at the job site throughout all phases of the construction, repair, alteration, or demolition work. The employer shall ensure the availability of the fire protection and suppression equipment required by Subpart F of this part.

§ 1926.25 Housekeeping.

(a) During the course of construction, alteration, or repairs, form and scrap lumber with protruding nails, and all other debris, shall be kept cleared from work areas, passageways, and stairs, in and around buildings or other structures.

(b) Combustible scrap and debris shall be removed at regular intervals during the course of construction. Safe means shall be provided to facilitate such removal.

(c) Containers shall be provided for the collection and separation of waste, trash, oily and used rags, and other refuse. Containers used for garbage and

other oily, flammable, or hazardous wastes, such as caustics, acids, harmful dusts, etc. shall be equipped with covers. Garbage and other waste shall be disposed of at frequent and regular intervals.

§ 1926.26 Illumination.

Construction areas, aisles, stairs, ramps, runways, corridors, offices, shops, and storage areas where work is in progress shall be lighted with either natural or artificial illumination. The minimum illumination requirements for work areas are contained in Subpart D of this part.

§ 1926.27 Sanitation.

Health and sanitation requirements for drinking water are contained in Subpart D of this part.

§ 1926.28 Personal protective equipment.

(a) The employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where this part indicates the need for using such equipment to reduce the hazards to the employees.

(b) Regulations governing the use, selection, and maintenance of personal protective and lifesaving equipment are described under Subpart E of this part.

§ 1926.29 Acceptable certifications.

(a) *Pressure vessels.* Current and valid certification by an insurance company or regulatory authority shall be deemed as acceptable evidence of safe installation, inspection, and testing of pressure vessels provided by the employer.

(b) *Boilers.* Boilers provided by the employer shall be deemed to be in compliance with the requirements of this part when evidence of current and valid certification by an insurance company or regulatory authority attesting to the safe installation, inspection, and testing is presented.

(c) *Other requirements.* Regulations prescribing specific requirements for other types of pressure vessels and similar equipment are contained in Subparts F and O of this part.

§ 1926.30 Shipbuilding and ship repairing.

(a) *General.* Shipbuilding, ship repairing, alterations, and maintenance performed on ships under Government contract, except naval ship construction, is work subject to the Act.

(b) *Applicable safety and health standards.* For the purpose of work carried out under this section, the safety and health regulations promulgated by the Secretary of Labor shall apply: Part 1915 of this title, Safety and Health Regulations for Ship Repairing, and Part 1916 of this title, Safety and Health Regulations for Shipbuilding.

§ 1926.31 Incorporation by reference.

(a) The specifications, standards and codes of agencies of the U.S. Government and organizations which are not agencies of the U.S. Government, to the extent they are legally incorporated by

reference in this part, have the same force and effect as other standards in this part. The locations where these specifications, standards, and codes may be examined are as follows:

(1) Offices of the Occupational Safety and Health Administration, U.S. Department of Labor, Railway Labor Building, Washington, DC 20210.

(2) The Regional and Field Offices of the Occupational Safety and Health Administration which are listed in the U.S. Government Manual 1973-74, at page 323.

(b) Any changes in the specifications, standards and codes incorporated by reference in this part and an official historic file of such changes are available at the offices referred to in paragraph (a) of this section. All questions as to the applicability of such changes should also be referred to these offices.

§ 1926.32 Definitions.

The following definitions shall apply in the application of the regulations in this part:

(a) "Act" means section 107 of the Contract Work Hours and Safety Standards Act, commonly known as the Construction Safety Act (86 Stat. 96; 40 U.S.C. 333).

(b) "ANSI" means American National Standards Institute.

(c) "Approved" means sanctioned, endorsed, accredited, certified, or accepted as satisfactory by a duly constituted and nationally recognized authority or agency.

(d) "Authorized person" means a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.

(e) "Administration" means the Occupational Safety and Health Administration.

(f) "Competent person" means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

(g) "Defect" means any characteristic or condition which tends to weaken or reduce the strength of the tool, object, or structure of which it is a part.

(h) "Designated person" means "authorized person" as defined in paragraph (d) of this section.

(i) "Employee" means every laborer or mechanic under the Act regardless of the contractual relationship which may be alleged to exist between the laborer and mechanic and the contractor or subcontractor who engaged him. "Laborer and mechanic" are not defined in the Act, but the identical terms are used in the Davis-Bacon Act (40 U.S.C. 276a), which provides for minimum wage protection on Federal and federally assisted construction contracts. The use of the same term in a statute which often applies concurrently with section 107 of the Act has considerable precedential value in ascertaining the meaning of "laborer and me-

chanic" as used in the Act. "Laborer" generally means one who performs manual labor or who labors at an occupation requiring physical strength; "mechanic" generally means a worker skilled with tools. See 18 Comp. Gen. 341.

(j) "Employer" means contractor or subcontractor within the meaning of the Act and of this part.

(k) "Hazardous substance" means a substance which, by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful, is likely to cause death or injury.

(l) "Qualified" means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

(m) "Safety factor" means the ratio of the ultimate breaking strength of a member or piece of material or equipment to the actual working stress or safe load when in use.

(n) "Secretary" means the Secretary of Labor.

(o) "SAE" means Society of Automotive Engineers.

(p) "Shall" means mandatory.

(q) "Should" means recommended.

(r) "Suitable" means that which fits, and has the qualities or qualifications to meet a given purpose, occasion, condition, function, or circumstance.

Subpart D—Occupational Health and Environmental Controls

§ 1926.50 Medical services and first aid.

(a) The employer shall insure the availability of medical personnel for advice and consultation on matters of occupational health.

(b) Provisions shall be made prior to commencement of the project for prompt medical attention in case of serious injury.

(c) In the absence of an infirmary, clinic, hospital, or physician, that is reasonably accessible in terms of time and distance to the worksite, which is available for the treatment of injured employees, a person who has a valid certificate in first-aid training from the U.S. Bureau of Mines, the American Red Cross, or equivalent training that can be verified by documentary evidence, shall be available at the worksite to render first aid.

(d) (1) First-aid supplies approved by the consulting physician shall be easily accessible when required.

(2) The first-aid kit shall consist of materials approved by the consulting physician in a weatherproof container with individual sealed packages for each type of item. The contents of the first-aid kit shall be checked by the employer before being sent out on each job and at least weekly on each job to ensure that the expended items are replaced.

(e) Proper equipment for prompt transportation of the injured person to a physician or hospital, or a communication system for contacting necessary ambulance service, shall be provided.

(f) The telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted.

§ 1926.51 Sanitation.

(a) *Potable water.* (1) An adequate supply of potable water shall be provided in all places of employment.

(2) Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.

(3) Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

(4) The common drinking cup is prohibited.

(5) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

(b) *Nonpotable water.* (1) Outlets for nonpotable water, such as water for industrial or firefighting purposes only, shall be identified by signs meeting the requirements of Subpart G of this part, to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

(2) There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing nonpotable water.

(c) *Toilets at construction jobsites.* (1) Toilets shall be provided for employees according to the following table:

TABLE D-1

Number of employees	Minimum number of facilities
20 or less	1.
20 or more	1 toilet seat and 1 urinal per 40 workers.
200 or more	1 toilet seat and 1 urinal per 50 workers.

(2) Under temporary field conditions, provisions shall be made to assure not less than one toilet facility is available.

(3) Job sites, not provided with a sanitary sewer, shall be provided with one of the following toilet facilities unless prohibited by local codes:

(i) Privies (where their use will not contaminate ground or surface water);

(ii) Chemical toilets;

(iii) Recirculating toilets;

(iv) Combustion toilets.

(4) The requirements of this paragraph (c) for sanitation facilities shall not apply to mobile crews having transportation readily available to nearby toilet facilities.

(d) *Food handling.* All employees' food service facilities and operations shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located.

(e) *Temporary sleeping quarters.* When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted.

(f) *Washing facilities.* The employer shall provide adequate washing facilities for employees engaged in the application of paints, coating, herbicides, or insecticides, or in other operations where contaminants may be harmful to the em-

ployees. Such facilities shall be in near proximity to the worksite and shall be so equipped as to enable employees to remove such substances.

(g) [Revoked]

§ 1926.52 Occupational noise exposure.

(a) Protection against the effects of noise exposure shall be provided when the sound levels exceed those shown in Table D-2 of this section when measurement meter at slow response.

(b) When employees are subjected to sound levels exceeding those listed in Table D-2 of this section, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of the table, personal protective equipment as required in Subpart E, shall be provided and used to reduce sound levels within the levels of the table.

(c) If the variations in noise level involve maxima at intervals of 1 second or less, it is to be considered continuous.

(d) (1) In all cases where the sound levels exceed the values shown herein, a continuing, effective hearing conservation program shall be administered.

TABLE D-2—PERMISSIBLE NOISE EXPOSURES

Duration per day, hours:	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
¾	110
½ or less	115

(2) (i) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula set forth in subdivision (ii) of this subparagraph.

(ii)

$$F_e = \frac{T_1}{L_1} + \frac{T_2}{L_2} + \dots + \frac{T_n}{L_n}$$

where:

F_e = The equivalent noise exposure factor.

T = The period of noise exposure at any essentially constant level.

L = The duration of the permissible noise exposure at the constant level (from Table D-2).

If the value of F_e exceeds unity (1) the exposure exceeds permissible levels.

(iii) A sample computation showing an application of the formula in subdivision (ii) of this paragraph is as follows. An employee is exposed at these levels for these periods:

110 dbA ¼ hour.
100 dbA ½ hour.
90 dbA 1½ hours.

$$F_e = \frac{1/4}{2} + \frac{1/2}{2} + \frac{1 1/2}{8}$$

$$F_e = 0.500 + 0.25 + 0.188$$

$$F_e = 0.938$$

Since the value of F_e does not exceed unity, the exposure is within permissible limits.

(e) Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

§ 1926.53 Ionizing radiation.

(a) In construction and related activities involving the use of sources of ionizing radiation, the pertinent provisions of the Atomic Energy Commission's Standards for Protection Against Radiation (10 CFR Part 20), relating to protection against occupational radiation exposure, shall apply.

(b) Any activity which involves the use of radioactive materials or X-rays, whether or not under license from the Atomic Energy Commission, shall be performed by competent persons specially trained in the proper and safe operation of such equipment. In the case of materials used under Commission license, only persons actually licensed, or competent persons under direction and supervision of the licensee, shall perform such work.

§ 1926.54 Nonionizing radiation.

(a) Only qualified and trained employees shall be assigned to install, adjust, and operate laser equipment.

(b) Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times.

(c) Employees, when working in areas in which a potential exposure to direct or reflected laser light greater than 0.005 watts (5 milliwatts) exists, shall be provided with antilaser eye protection devices as specified in Subpart E of this part.

(d) Areas in which lasers are used shall be posted with standard laser warning placards.

(e) Beam shutters or caps shall be utilized, or the laser turned off, when laser transmission is not actually required. When the laser is left unattended for a substantial period of time, such as during lunch hour, overnight, or at change of shifts, the laser shall be turned off.

(f) Only mechanical or electronic means shall be used as a detector for guiding the internal alignment of the laser.

(g) The laser beam shall not be directed at employees.

(h) When it is raining or snowing, or when there is dust or fog in the air, the operation of laser systems shall be prohibited where practicable; in any event, employees shall be kept out of range of the area of source and target during such weather conditions.

(i) Laser equipment shall bear a label to indicate maximum output.

(j) Employees shall not be exposed to light intensities above:

(1) Direct staring: 1 micro-watt per square centimeter;

(2) Incidental observing: 1 milliwatt per square centimeter;

(3) Diffused reflected light: 2½ watts per square centimeter.

(k) Laser unit in operation should be set up above the heads of the employees, when possible.

(l) Employees shall not be exposed to microwave power densities in excess of 10 milliwatts per square centimeter.

§ 1926.55 Gases, vapors, fumes, dusts, and mists.

(a) Exposure of employees to inhalation, ingestion, skin absorption, or contact with any material or substance at a concentration above those specified in the "Threshold Limit Values of Airborne Contaminants for 1970" of the American Conference of Governmental Industrial Hygienists, shall be avoided.

(b) To achieve compliance with paragraph (a) of this section, administrative or engineering controls must first be implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and technical measures used for this purpose must first be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with § 1926.103.

(c) Paragraphs (a) and (b) of this section do not apply to the exposure of employees to airborne asbestos dust. Whenever any employee is exposed to airborne asbestos dust, the requirements of § 1910.93a of this title shall apply.

§ 1926.56 Illumination.

(a) *General.* Construction areas, ramps, runways, corridors, offices, shops, and storage areas shall be lighted to not less than the minimum illumination intensities listed in Table D-3 while any work is in progress:

TABLE D-3—MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES

Foot-candles:	Area or operation
5	General construction area lighting.
8	General construction areas, concrete placement, excavation and waste areas, accessways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: warehouses, corridors, hallways, and exitways.
5	Tunnels, shafts, and general underground work areas: (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Bureau of Mines approved cap lights shall be acceptable for use in the tunnel heading.)
10	General construction plant and shops (e.g., batch plants, screening plants, mechanical and electrical equipment rooms, carpenter shops, rigging lofts and active store-rooms, barracks or living quarters, locker or dressing rooms, mess halls, and indoor toilets and workrooms).
30	First aid stations, infirmaries, and offices.

(b) *Other areas.* For areas or operations not covered above, refer to the American National Standard A11.1-1965, R1970, Practice for Industrial Lighting, for recommended values of illumination.

§ 1926.57 Ventilation.

(a) *General.* Whenever hazardous substances such as dusts, fumes, mists, vapors, or gases exist or are produced in the course of construction work, their concentrations shall not exceed the limits specified in § 1926.55(a). When ventilation is used as an engineering control method, the system shall be installed and operated according to the requirements of this section.

(b) *Local exhaust ventilation.* Local exhaust ventilation when used as described in (a) shall be designed to prevent dispersion into the air of dusts, fumes, mists, vapors, and gases in concentrations causing harmful exposure. Such exhaust systems shall be so designed that dusts, fumes, mists, vapors, or gases are not drawn through the work area of employees.

(c) *Design and operation.* Exhaust fans, jets, ducts, hoods, separators, and all necessary appurtenances, including refuse receptacles, shall be so designed, constructed, maintained and operated as to ensure the required protection by maintaining a volume and velocity of exhaust air sufficient to gather dusts, fumes, vapors, or gases from said equipment or process, and to convey them to suitable points of safe disposal, thereby preventing their dispersion in harmful quantities into the atmosphere where employees work.

(d) *Duration of operations.* (1) The exhaust system shall be in operation continually during all operations which it is designed to serve. If the employee remains in the contaminated zone, the system shall continue to operate after the cessation of said operations, the length of time to depend upon the individual circumstances and effectiveness of the general ventilation system.

(2) Since dust capable of causing disability is, according to the best medical opinion, of microscopic size, tending to remain for hours in suspension in still air, it is essential that the exhaust system be continued in operation for a time after the work process or equipment served by the same shall have ceased, in order to ensure the removal of the harmful elements to the required extent. For the same reason, employees wearing respiratory equipment should not remove same immediately until the atmosphere seems clear.

(e) *Disposal of exhaust materials.* The air outlet from every dust separator, and the dusts, fumes, mists, vapors, or gases collected by an exhaust or ventilating system shall discharge to the outside atmosphere. Collecting systems which return air to work area may be used if concentrations which accumulate in the work area air do not result in harmful exposure to employees. Dust and refuse

discharged from an exhaust system shall be disposed of in such a manner that it will not result in harmful exposure to employees.

Subpart E—Personal Protective and Life Saving Equipment

§ 1926.100 Head protection.

(a) Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

(b) Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(c) Helmets for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

§ 1926.101 Hearing protection.

(a) Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table D-2, Permissible Noise Exposures, in § 1926.52, ear protective devices shall be provided and used.

(b) Ear protective devices inserted in the ear shall be fitted or determined individually by competent persons.

(c) Plain cotton is not an acceptable protective device.

§ 1926.102 Eye and face protection.

(a) *General.* (1) Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

(2) Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

(3) Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:

(i) Spectacles whose protective lenses provide optical correction;

(ii) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles;

(iii) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Face and eye protection equipment shall be kept clean and in good repair. The use of this type equipment with structural or optical defects shall be prohibited.

(5) Table E-1 shall be used as a guide in the selection of face and eye protection for the hazards and operations noted.

TABLE E-1—EYE AND FACE PROTECTOR SELECTION GUIDE



1. GOGGLES, Flexible Fitting, Regular Ventilation
2. GOGGLES, Flexible Fitting, Hooded Ventilation
3. GOGGLES, Cushioned Fitting, Rigid Body
4. SPECTACLES, Metal Frame, with Sideshields
5. SPECTACLES, Plastic Frame, with Sideshields
6. SPECTACLES, Metal-Plastic Frame, with Sideshields

7. WELDING GOGGLES, Eyecup Type, Tinted Lenses (Illustrated)
- 7A. CHIPPING GOGGLES, Eyecup Type, Clear Safety Lenses (Not Illustrated)
8. WELDING GOGGLES, Coverspec Type, Tinted Lenses (Illustrated)
- 8A. CHIPPING GOGGLES, Coverspec Type, Clear Safety Lenses (Not Illustrated)
9. WELDING GOGGLES, Coverspec Type, Tinted Plate Lens
10. FACE SHIELD (Available with Plastic or Mesh Window)
11. WELDING HELMET'S

APPLICATIONS

OPERATION	HAZARDS	RECOMMENDED PROTECTORS: Bold Type Numbers Signify Preferred Protection
ACETYLENE—BURNING ACETYLENE—CUTTING ACETYLENE—WELDING	SPARKS, HARMFUL RAYS, MOLTEN METAL, FLYING PARTICLES	7, 8, 9
CHEMICAL HANDLING	SPLASH, ACID BURNS, FUMES	2, 10 (For severe exposure add 10 over 2)
CHIPPING	FLYING PARTICLES	1, 3, 4, 5, 6, 7A, 8A
ELECTRIC (ARC) WELDING	SPARKS, INTENSE RAYS, MOLTEN METAL	9, 11 (If in combination with 4, 5, 6, in tinted lenses, advisable)
FURNACE OPERATIONS	GLARE, HEAT, MOLTEN METAL	7, 8, 9 (For severe exposure add 10)
GRINDING—LIGHT	FLYING PARTICLES	1, 3, 4, 5, 6, 10
GRINDING—HEAVY	FLYING PARTICLES	1, 3, 7A, 8A (For severe exposure add 10)
LABORATORY	CHEMICAL SPLASH, GLASS BREAKAGE	2 (10 when in combination with 4, 5, 6)
MACHINING	FLYING PARTICLES	1, 3, 4, 5, 6, 10
MOLTEN METALS	HEAT, GLARE, SPARKS, SPLASH	7, 8, 10 (In combination with 4, 5, 6, in tinted lenses)
SPOT WELDING	FLYING PARTICLES, SPARKS	1, 3, 4, 5, 6, 10

*Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

**See Table E-2, in paragraph (b) of this section, Filter Lens Shade Numbers for Protection Against Radiant Energy.

(b) Protection against radiant energy—(1) Selection of shade numbers for welding filter. Table E-2 shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those listed may be used to suit the individual's needs.

TABLE E-2—FILTER LENS SHADE NUMBERS FOR PROTECTION AGAINST RADIANT ENERGY

Welding operation	Shade number
Shielded metal-arc welding $\frac{1}{16}$ -, $\frac{1}{32}$ -, $\frac{1}{8}$ -, $\frac{1}{4}$ -inch diameter electrodes	10
Gas-shielded arc welding (nonferrous) $\frac{1}{16}$ -, $\frac{1}{32}$ -, $\frac{1}{8}$ -, $\frac{1}{4}$ -inch diameter electrodes	11

Welding operation	Shade number
Gas-shielded arc welding (ferrous) $\frac{1}{16}$ -, $\frac{1}{32}$ -, $\frac{1}{8}$ -, $\frac{1}{4}$ -inch diameter electrodes	12
Shielded metal-arc welding $\frac{1}{16}$ -, $\frac{1}{32}$ -, $\frac{1}{8}$ -, $\frac{1}{4}$ -inch diameter electrodes	12
$\frac{1}{16}$ -, $\frac{1}{32}$ -inch diameter electrodes	14
Atomic hydrogen welding	10-14
Carbon-arc welding	14
Soldering	2
Torch brazing	3 or 4
Light cutting, up to 1 inch	3 or 4
Medium cutting, 1 inch to 6 inches	4 or 5
Heavy cutting, over 6 inches	5 or 6
Gas welding (light), up to $\frac{1}{8}$ -inch	4 or 5
Gas welding (medium), $\frac{1}{8}$ -inch to $\frac{1}{2}$ -inch	5 or 6
Gas welding (heavy), over $\frac{1}{2}$ -inch	6 or 8

(2) Laser protection. (1) Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (O.D.) adequate for the energy involved. Table E-3 lists the maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 through 8.

TABLE E-3—SELECTING LASER SAFETY GLASS

INTENSITY	ATTENUATION	
CW maximum power density (watts/cm ²)	Optical density (O.D.)	Attenuation factor
10 ⁻²	5	10 ⁵
10 ⁻¹	6	10 ⁶
1.0	7	10 ⁷
10.0	8	10 ⁸

Output levels falling between lines in this table shall require the higher optical density.

(ii) All protective goggles shall bear a label identifying the following data:

(a) The laser wavelengths for which use is intended;

(b) The optical density of those wavelengths;

(c) The visible light transmission.

§ 1926.103 Respiratory protection.

(a) General. (1) In emergencies, or when controls required by Subpart D of this part either fail or are inadequate to prevent harmful exposure to employees, appropriate respiratory protective devices shall be provided by the employer and shall be used.

(2) Respiratory protective devices shall be approved by the U.S. Bureau of Mines or acceptable to the U.S. Department of Labor for the specific contaminant to which the employee is exposed.

(b) Respirator selection. (1) The chemical and physical properties of the contaminant, as well as the toxicity and concentration of the hazardous material, shall be considered in selecting the proper respirators.

(2) The nature and extent of the hazard, work requirements, and conditions, as well as the limitations and characteristics of the available respirators, shall also be factors considered in making the proper selection.

(3) The following table lists the types of respirators required for protection in dangerous atmospheres:

TABLE E-4.—SELECTION OF RESPIRATORS

Hazard	Respirator (See Note)
Oxygen deficiency.....	Self-contained breathing apparatus. Hose mask with blower. Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Gas and vapor contaminants immediately dangerous to life and health.	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with chemical canister (gas mask). Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health.	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge.
Particulate contaminants immediately dangerous to life and health.	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with appropriate filter. Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health.	Air-purifying, half-mask or mouthpiece respirator with filter pad or cartridge.
Combination gas, vapor, and particulate contaminants immediately dangerous to life and health.	Air-line respirator. Air-line abrasive-blasting respirator. Hose mask without blower. Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with chemical canister and appropriate filter (gas mask with filter). Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health.	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge and appropriate filter.

NOTE: For the purpose of this part, "immediately dangerous to life and health" is defined as a condition that either poses an immediate threat to life and health or an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse delayed effect on health.

(c) *Selection, issuance, use and care of respirators.* (1) Employees required to use respiratory protective equipment approved for use in atmospheres immediately dangerous to life shall be thoroughly trained in its use. Employees required to use other types of respiratory protective equipment shall be instructed in the use and limitations of such equipment.

(2) Respiratory protective equipment shall be inspected regularly and maintained in good condition. Gas mask canisters and chemical cartridges shall be replaced as necessary so as to provide complete protection. Mechanical filters shall be cleaned or replaced as necessary so as to avoid undue resistance to breathing.

(3) Respiratory protective equipment which has been previously used shall be cleaned and disinfected before it is issued by the employer to another employee. Emergency rescue equipment shall be cleaned and disinfected immediately after each use.

§ 1926.104 Safety belts, lifelines, and lanyards.

(a) Lifelines, safety belts, and lanyards shall be used only for employee safeguarding. Any lifeline, safety belt, or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

(b) Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.

(c) Lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of $\frac{3}{8}$ -inch wire core manila rope. For all other lifeline applications, a minimum of $\frac{3}{4}$ -inch manila or

equivalent, with a minimum breaking strength of 5,400 pounds, shall be used.

(d) Safety belt lanyard shall be a minimum of $\frac{1}{2}$ -inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. The rope shall have a nominal breaking strength of 5,400 pounds.

(e) All safety belt and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with type 1, Class B plating specified in Federal Specification QQ-P-416. Surface shall be smooth and free of sharp edges.

(f) All safety belt and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.

§ 1926.105 Safety nets.

(a) Safety nets shall be provided when workplaces are more than 25 feet above the ground or water surface, or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical.

(b) Where safety net protection is required by this part, operations shall not be undertaken until the net is in place and has been tested.

(c) (1) Nets shall extend 8 feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work surface as practical but in no case more than 25 feet below such work surface. Nets shall be hung with sufficient clearance to prevent user's contact with the surfaces or structures below. Such clearances shall be determined by impact load testing.

(2) It is intended that only one level of nets be required for bridge construction.

(d) The mesh size of nets shall not exceed 6 inches by 6 inches. All new nets

shall meet accepted performance standards of 17,500 foot-pounds minimum impact resistance as determined and certified by the manufacturers, and shall bear a label of proof test. Edge ropes shall provide a minimum breaking strength of 5,000 pounds.

(e) Forged steel safety hooks or shackles shall be used to fasten the net to its supports.

(f) Connections between net panels shall develop the full strength of the net.

§ 1926.106 Working over or near water.

(a) Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jacket or buoyant work vests.

(b) Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.

(c) Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

(d) At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

§ 1926.107 Definitions applicable to this subpart.

(a) "Contaminant" means any material which by reason of its action upon, within, or to a person is likely to cause physical harm.

(b) "Lanyard" means a rope, suitable for supporting one person. One end is fastened to a safety belt or harness and the other end is secured to a substantial object or a safety line.

(c) "Lifeline" means a rope, suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached.

(d) "O.D." means optical density and refers to the light refractive characteristics of a lens.

(e) "Radiant energy" means energy that travels outward in all directions from its sources.

(f) "Safety belt" means a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will prevent a worker from falling.

Subpart F—Fire Protection and Prevention

§ 1926.150 Fire protection.

(a) *General requirements.* (1) The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and he shall provide for the firefighting equipment as specified in this subpart. As fire hazards occur, there shall be no delay in providing the necessary equipment.

(2) Access to all available firefighting equipment shall be maintained at all times.

(3) All firefighting equipment, provided by the employer, shall be conspicuously located.

Table F-1 FIRE EXTINGUISHERS DATA

	WATER TYPE				FOAM		CARBON DIOXIDE		DRY CHEMICAL		MULTI-PURPOSE	
	STANDARD PUMP	CARBONATE	WATER PUMP	WATER PUMP	FOAM	FOAM	NO	NO	NO	NO	YES	YES
CLASS A FIRE WOOD, PAPER, TRASH, PAVING, CLADDING, EMBERS	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	YES	YES
CLASS B FIRE FLAMMABLE LIQUIDS, GASOLINE, OIL, PAINTS, GREASE, ETC.	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES	YES
CLASS C FIRE ELECTRICAL EQUIPMENT	NO	NO	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
CLASS D FIRE COMBUSTIBLE METALS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
SPECIAL EXTINGUISHING AGENTS APPROVED BY RECOGNIZED TESTING LABORATORIES												
METHOD OF OPERATION	PULL PIN— NOZZLE HANDLE	TURN UP— DOWN HANDLE	PUMP HANDLE	TURN UP— DOWN HANDLE	TURN UP— DOWN HANDLE	TURN UP— DOWN HANDLE	PULL PIN— NOZZLE HANDLE	PULL PIN— NOZZLE HANDLE	PULL PIN— NOZZLE HANDLE	PULL PIN— NOZZLE HANDLE	PULL PIN— NOZZLE HANDLE	PULL PIN— NOZZLE HANDLE
RANGE	30' - 40'	30' - 40'	30' - 40'	30' - 40'	30' - 40'	30' - 40'	3' - 8'	5' - 20'	5' - 20'	5' - 20'	5' - 20'	5' - 20'
MAINTENANCE	CHECK AIR PRESSURE MONTHLY	RECHARGE CARTRIDGE AND REPAIR MONTHLY	DISCHARGE AND RECHARGE MONTHLY	DISCHARGE AND RECHARGE MONTHLY	DISCHARGE AND RECHARGE MONTHLY	DISCHARGE AND RECHARGE MONTHLY	RECHARGE MONTHLY	RECHARGE MONTHLY	RECHARGE MONTHLY	RECHARGE MONTHLY	RECHARGE MONTHLY	RECHARGE MONTHLY

(4) All firefighting equipment shall be periodically inspected and maintained in operating condition. Defective equipment shall be immediately replaced.

(5) As warranted by the project, the employer shall provide a trained and equipped firefighting organization (Fire Brigade) to assure adequate protection to life.

(b) *Water supply.* (1) A temporary or permanent water supply, of sufficient volume, duration, and pressure, required to properly operate the firefighting equipment shall be made available as soon as combustible materials accumulate.

(2) Where underground water mains are to be provided, they shall be installed, completed, and made available for use as soon as practicable.

(c) *Portable firefighting equipment—*

(1) *Fire extinguishers and small hose lines.* (i) A fire extinguisher, rated not less than 2A, shall be provided for each 3,000 square feet of the protected building area, or major fraction thereof. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 100 feet.

(ii) One 55-gallon open drum of water with two fire pails may be substituted for a fire extinguisher having a 2A rating.

(iii) A 1/2-inch diameter garden-type hose line, not to exceed 100 feet in length and equipped with a nozzle, may be substituted for a 2A-rated fire extinguisher, provided it is capable of discharging a minimum of 5 gallons per minute with a minimum hose stream range of 30 feet horizontally. The garden-type hose lines shall be mounted on conventional racks or reels. The number and location of hose racks or reels shall be such that at least one hose stream can be applied to all points in the area.

(iv) One or more fire extinguishers, rated not less than 2A, shall be provided on each floor. In multistory buildings, at least one fire extinguisher shall be located adjacent to stairway.

(v) Extinguishers and water drums, subject to freezing, shall be protected from freezing.

(vi) A fire extinguisher, rated not less than 10B, shall be provided within 50 feet of wherever more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas are being used on the jobsite. This requirement does not apply to the integral fuel tanks of motor vehicles.

(vii) Carbon tetrachloride and other toxic vaporizing liquid fire extinguishers are prohibited.

(viii) Portable fire extinguishers shall be inspected periodically and maintained in accordance with Maintenance and Use of Portable Fire Extinguishers, NFPA No. 10A-1970.

(ix) Fire extinguishers which have been listed or approved by a nationally recognized testing laboratory, shall be used to meet the requirements of this subpart.

(x) Table F-1 may be used as a guide for selecting the appropriate portable fire extinguishers.

(2) *Fire hose and connections.* (1) One hundred feet, or less, of 1 1/2-inch hose, with a nozzle capable of discharging water at 25 gallons or more per minute, may be substituted for a fire extinguisher rated not more than 2A in the designated area provided that the hose line can reach all points in the area.

(ii) If fire hose connections are not compatible with local firefighting equipment, the contractor shall provide adapters, or equivalent, to permit connections.

(iii) During demolition involving combustible materials, charged hose lines, supplied by hydrants, water tank trucks with pumps, or equivalent, shall be made available.

(d) *Fixed firefighting equipment—*(1) *Sprinkler protection.* (i) If the facility being constructed includes the installation of automatic sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as applicable laws permit following completion of each story.

(ii) During demolition or alterations, existing automatic sprinkler installations shall be retained in service as long as reasonable. The operation of sprinkler control valves shall be permitted only by properly authorized persons. Modification of sprinkler systems to permit alterations or additional demolition should be expedited so that the automatic protection may be returned to service as quickly as possible. Sprinkler control valves shall be checked daily at close of work to ascertain that the protection is in service.

(2) *Standpipes.* In all structures in which standpipes are required, or where standpipes exist in structures being altered, they shall be brought up as soon as applicable laws permit, and shall be maintained as construction progresses in such a manner that they are always ready for fire protection use. The standpipes shall be provided with Siamese fire department connections on the outside of the structure, at the street level, which shall be conspicuously marked. There shall be at least one standard hose outlet at each floor.

(e) *Fire alarm devices.* (1) An alarm system, e.g., telephone system, siren, etc., shall be established by the employer whereby employees on the site and the local fire department can be alerted for an emergency.

(2) The alarm code and reporting instructions shall be conspicuously posted at phones and at employee entrances.

(f) *Fire cutoffs.* (1) Fire walls and exit stairways, required for the completed buildings, shall be given construction priority. Fire doors, with automatic closing devices, shall be hung on openings as soon as practicable.

(2) Fire cutoffs shall be retained in buildings undergoing alterations or demolition until operations necessitate their removal.

§ 1926.151 Fire prevention.

(a) *Ignition hazards.* (1) Electrical wiring and equipment for light, heat, or power purposes shall be installed in compliance with the requirements of the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of 1968), and the requirements of Subpart K of this part.

(2) Internal combustion engine powered equipment shall be so located that the exhausts are well away from combustible materials. When the exhausts are piped to outside the building under construction, a clearance of at least 6 inches shall be maintained between such piping and combustible material.

(3) Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard, and shall be conspicuously posted: "No Smoking or Open Flame."

(4) Portable battery powered lighting equipment, used in connection with the storage, handling, or use of flammable gases or liquids, shall be of the type approved for the hazardous locations.

(5) The nozzle of air, inert gas, and steam lines or hoses, when used in the cleaning or ventilation of tanks and vessels that contain hazardous concentrations of flammable gases or vapors, shall be bonded to the tank or vessel

shell. Bonding devices shall not be attached or detached in hazardous concentrations of flammable gases or vapors.

(b) *Temporary buildings.* (1) No temporary building shall be erected where it will adversely affect any means of exit.

(2) Temporary buildings, when located within another building or structure, shall be of either noncombustible construction or of combustible construction having a fire resistance of not less than 1 hour.

(3) Temporary buildings, located other than inside another building and not used for the storage, handling, or use of flammable or combustible liquids, flammable gases, explosives, or blasting agents, or similar hazardous occupancies, shall be located at a distance of not less than 10 feet from another building or structure. Groups of temporary buildings, not exceeding 2,000 square feet in aggregate, shall, for the purposes of this part, be considered a single temporary building.

(c) *Open yard storage.* (1) Combustible materials shall be piled with due regard to the stability of piles and in no case higher than 20 feet.

(2) Driveways between and around combustible storage piles shall be at least 15 feet wide and maintained free from accumulation of rubbish, equipment, or other articles or materials. Driveways shall be so spaced that a maximum grid system unit of 50 feet by 150 feet is produced.

(3) The entire storage site shall be kept free from accumulation of unnecessary combustible materials. Weeds and grass shall be kept down and a regular procedure provided for the periodic cleanup of the entire area.

(4) When there is a danger of an underground fire, that land shall not be used for combustible or flammable storage.

(5) Method of piling shall be solid wherever possible and in orderly and regular piles. No combustible material shall be stored outdoors within 10 feet of a building or structure.

(6) Portable fire extinguishing equipment, suitable for the fire hazard involved, shall be provided at convenient, conspicuously accessible locations in the yard area. Portable fire extinguishers, rated not less than 2A, shall be placed so that maximum travel distance to the nearest unit shall not exceed 100 feet.

(d) *Indoor storage.* (1) Storage shall not obstruct, or adversely affect, means of exit.

(2) All materials shall be stored, handled, and piled with due regard to their fire characteristics.

(3) Noncompatible materials, which may create a fire hazard, shall be segregated by a barrier having a fire resistance of at least 1 hour.

(4) Material shall be piled to minimize the spread of fire internally and to permit convenient access for firefighting. Stable piling shall be maintained at all times. Aisle space shall be maintained to safely accommodate the widest vehicle that may be used within the building for firefighting purposes.

(5) Clearance of at least 36 inches shall be maintained between the top level of the stored material and the sprinkler deflectors.

(6) Clearance shall be maintained around lights and heating units to prevent ignition of combustible materials.

(7) A clearance of 24 inches shall be maintained around the path of travel of fire doors unless a barricade is provided, in which case no clearance is needed. Material shall not be stored within 36 inches of a fire door opening.

§ 1926.152 Flammable and combustible liquids.

(a) *General requirements.* (1) Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. Approved metal safety cans shall be used for the handling and use of flammable liquids in quantities greater than one gallon, except that this shall not apply to those flammable liquid materials which are highly viscous (extremely hard to pour), which may be used and handled in original shipping containers. For quantities of one gallon or less, only the original container or approved metal safety cans shall be used for storage, use, and handling of flammable liquids.

(2) Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the safe passage of people.

(b) *Indoor storage of flammable and combustible liquids.* (1) No more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. For storage of liquefied petroleum gas, see § 1926.153.

(2) Quantities of flammable and combustible liquid in excess of 25 gallons shall be stored in an acceptable or approved cabinet meeting the following requirements:

(i) Acceptable wooden storage cabinets shall be constructed in the following manner, or equivalent: The bottom, sides, and top shall be constructed of an exterior grade of plywood at least 1 inch in thickness, which shall not break down or delaminate under standard fire test conditions. All joints shall be rabbeted and shall be fastened in two directions with flathead wood screws. When more than one door is used, there shall be a rabbeted overlap of not less than 1 inch. Steel hinges shall be mounted in such a manner as to not lose their holding capacity due to loosening or burning out of the screws when subjected to fire. Such cabinets shall be painted inside and out with fire retardant paint.

(ii) Approved metal storage cabinets will be acceptable.

(iii) Cabinets shall be labeled in conspicuous lettering, "Flammable—Keep Fire Away."

(3) Not more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet. Not more than three such cabinets may be located in a single storage area. Quantities in excess of this shall be stored in an inside storage room.

(4) (i) Inside storage rooms shall be constructed to meet the required fire-resistive rating for their use. Such construction shall comply with the test specifications set forth in Standard Methods of Fire Test of Building Construction and Material, NFPA 251-1969.

(ii) Where an automatic extinguishing system is provided, the system shall be designed and installed in an approved manner. Openings to other rooms or buildings shall be provided with non-combustible liquid-tight raised sills or ramps at least 4 inches in height, or the floor in the storage area shall be at least 4 inches below the surrounding floor. Openings shall be provided with approved self-closing fire doors. The room shall be liquid-tight where the walls join the floor. A permissible alternate to the sill or ramp is an open-grated trench, inside of the room, which drains to a safe location. Where other portions of the building or other buildings are exposed, windows shall be protected as set forth in the Standard for Fire Doors and Windows, NFPA No. 80-1970, for Class E or F openings. Wood of at least 1-inch nominal thickness may be used for shelving, racks, dunnage, scuffboards, floor overlay, and similar installations.

(iii) Materials which will react with water and create a fire hazard shall not be stored in the same room with flammable or combustible liquids.

(iv) Storage in inside storage rooms shall comply with Table F-2 following:

TABLE F-2

Fire protection provided	Fire resistance	Maximum size	Total allowable quantities gals./sq. ft./floor area
Yes.....	2 hrs.....	600 sq. ft.....	10
No.....	2 hrs.....	600 sq. ft.....	4
Yes.....	1 hr.....	150 sq. ft.....	5
No.....	1 hr.....	150 sq. ft.....	2

NOTE: Fire protection system shall be sprinkler, water spray, carbon dioxide or other system approved by a nationally recognized testing laboratory for this purpose.

(v) Electrical wiring and equipment located in inside storage rooms shall be approved for Class 1, Division 1, Hazardous Locations. For definition of Class 1, Division 1, Hazardous Locations, see § 1926.404.

(vi) Every inside storage room shall be provided with either a gravity or a mechanical exhausting system. Such system shall commence not more than 12 inches above the floor and be designed to provide for a complete change of air within the room at least 6 times per hour. If a mechanical exhausting system is used, it shall be controlled by a switch located outside of the door. The ventilating equipment and any lighting fixtures shall be operated by the same switch. An electric pilot light shall be installed adjacent to the switch if flammable liquids are dispensed within the room. Where gravity ventilation is provided, the fresh air intake, as well as the exhausting outlet from the room, shall be on the exterior of the building in which the room is located.

(vii) In every inside storage room there shall be maintained one clear aisle at least 3 feet wide. Containers over 30 gallons capacity shall not be stacked one upon the other.

(viii) Flammable and combustible liquids in excess of that permitted in inside storage rooms shall be stored outside of buildings in accordance with paragraph (c) of this section.

(c) *Storage outside buildings.* (1) Storage of containers (not more than 60 gallons each) shall not exceed 1,100 gallons in any one pile or area. Piles or groups of containers shall be separated by a 5-foot clearance. Piles or groups of containers shall not be nearer than 20 feet to a building.

(2) Within 200 feet of each pile of containers, there shall be a 12-foot-wide access way to permit approach of fire control apparatus.

(3) The storage area shall be graded in a manner to divert possible spills away from buildings or other exposures, or shall be surrounded by a curb or earth dike at least 12 inches high. When curbs or dikes are used, provisions shall be made for draining off accumulations of ground or rain water, or spills of flammable or combustible liquids. Drains shall terminate at a safe location and shall be accessible to operation under fire conditions.

(4) *Outdoor portable tank storage:* (i) Portable tanks shall not be nearer than 20 feet from any building. Two or more portable tanks, grouped together, having a combined capacity in excess of 2,200 gallons, shall be separated by a 5-foot-clear area. Individual portable tanks exceeding 1,100 gallons shall be separated by a 5-foot-clear area.

(ii) Within 200 feet of each portable tank, there shall be a 12-foot-wide access way to permit approach of fire control apparatus.

(5) Storage areas shall be kept free of weeds, debris, and other combustible material not necessary to the storage.

(6) Portable tanks, not exceeding 660 gallons, shall be provided with emergency venting and other devices, as required by chapters III and IV of NFPA 30-1969, The Flammable and Combustible Liquids Code.

(7) Portable tanks, in excess of 660 gallons, shall have emergency venting and other devices, as required by chapters II and III of The Flammable and Combustible Liquids Code, NFPA 30-1969.

(d) *Fire control for flammable or combustible liquid storage.* (1) At least one portable fire extinguisher, having a rating of not less than 20-B units, shall be located outside of, but not more than 10 feet from, the door opening into any room used for storage of more than 60 gallons of flammable or combustible liquids.

(2) At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside.

(3) When sprinklers are provided, they shall be installed in accordance

with the Standard for the Installation of Sprinkler Systems, NFPA 13-1969.

(4) At least one portable fire extinguisher having a rating of not less than 20-B:C units shall be provided on all tank trucks or other vehicles used for transporting and/or dispensing flammable or combustible liquids.

(e) *Dispensing liquids.* (1) Areas in which flammable or combustible liquids are transferred at one time, in quantities greater than 5 gallons from one tank or container to another tank or container, shall be separated from other operations by 25-foot distance or by construction having a fire resistance of at least 1 hour. Drainage or other means shall be provided to control spills. Adequate natural or mechanical ventilation shall be provided to maintain the concentration of flammable vapor at or below 10 percent of the lower flammable limit.

(2) Transfer of flammable liquids from one container to another shall be done only when containers are electrically interconnected (bonded).

(3) Flammable or combustible liquids shall be drawn from or transferred into vessels, containers, or tanks within a building or outside only through a closed piping system, from safety cans, by means of a device drawing through the top, or from a container, or portable tanks, by gravity or pump, through an approved self-closing valve. Transferring by means of air pressure on the container or portable tanks is prohibited.

(4) The dispensing units shall be protected against collision damage.

(5) Dispensing devices and nozzles for flammable liquids shall be of an approved type.

(f) *Handling liquids at point of final use.* (1) Flammable liquids shall be kept in closed containers when not actually in use.

(2) Leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely.

(3) Flammable liquids may be used only where there are no open flames or other sources of ignition within 50 feet of the operation, unless conditions warrant greater clearance.

(g) *Service and refueling areas.* (1) Flammable or combustible liquids shall be stored in approved closed containers, in tanks located underground, or in aboveground portable tanks.

(2) The tank trucks shall comply with the requirements covered in the Standard for Tank Vehicles for Flammable and Combustible Liquids, NFPA No. 385-1966.

(3) The dispensing hose shall be an approved type.

(4) The dispensing nozzle shall be an approved automatic-closing type without a latch-open device.

(5) Underground tanks shall not be abandoned.

(6) Clearly identified and easily accessible switch(es) shall be provided at a location remote from dispensing devices to shut off the power to all dispensing devices in the event of an emergency.

(7) (i) Heating equipment of an approved type may be installed in the lubrication or service area where there is no

dispensing or transferring of flammable liquids, provided the bottom of the heating unit is at least 18 inches above the floor and is protected from physical damage.

(ii) Heating equipment installed in lubrication or service areas, where flammable liquids are dispensed, shall be of an approved type for garages, and shall be installed at least 8 feet above the floor.

(8) There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids.

(9) Conspicuous and legible signs prohibiting smoking shall be posted.

(10) The motors of all equipment being fueled shall be shut off during the fueling operation.

(11) Each service or fueling area shall be provided with at least one fire extinguisher having a rating of not less than 20-B:C located so that an extinguisher will be within 75 feet of each pump, dispenser, underground fill pipe opening, and lubrication or service area.

§ 1926.153 Liquefied petroleum gas (LP-Gas).

(a) *Approval of equipment and systems.* (1) Each system shall have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type.

(2) All cylinders shall meet the Department of Transportation specification identification requirements published in 49 CFR Part 178, Shipping Container Specifications.

(b) *Welding on LP-Gas containers.* Welding is prohibited on containers.

(c) *Container valves and container accessories.* (1) Valves, fittings, and accessories connected directly to the container, including primary shut off valves, shall have a rated working pressure of at least 250 p.s.i.g. and shall be of material and design suitable for LP-Gas service.

(2) Connections to containers, except safety relief connections, liquid level gauging devices, and plugged openings, shall have shutoff valves located as close to the container as practicable.

(d) *Safety devices.* (1) Every container and every vaporizer shall be provided with one or more approved safety relief valves or devices. These valves shall be arranged to afford free vent to the outer air with discharge not less than 5 feet horizontally away from any opening into a building which is below such discharge.

(2) Shutoff valves shall not be installed between the safety relief device and the container, or the equipment or piping to which the safety relief device is connected, except that a shutoff valve may be used where the arrangement of this valve is such that full required capacity flow through the safety relief device is always afforded.

(3) Container safety relief devices and regulator relief vents shall be located not less than 5 feet in any direction from air openings into sealed combustion system appliances or mechanical ventilation air intakes.

(e) *Dispensing.* (1) Filling of fuel containers for trucks or motor vehicles from bulk storage containers shall be performed not less than 10 feet from the nearest masonry-walled building, or not less than 25 feet from the nearest building or other construction and, in any event, not less than 25 feet from any building opening.

(2) Filling of portable containers or containers mounted on skids from storage containers shall be performed not less than 50 feet from the nearest building.

(f) *Requirements for appliances.* (1) LP-Gas consuming appliances shall be approved types.

(2) Any appliance that was originally manufactured for operation with a gaseous fuel other than LP-Gas, and is in good condition, may be used with LP-Gas only after it is properly converted, adapted, and tested for performance with LP-Gas before the appliance is placed in use.

(g) *Containers and regulating equipment installed outside of buildings or structures.* Containers shall be upright upon firm foundations or otherwise firmly secured. The possible effect on the outlet piping of settling shall be guarded against by a flexible connection or special fitting.

(h) *Containers and equipment used inside of buildings or structures.* (1) When operational requirements make portable use of containers necessary, and their location outside of buildings or structures is impracticable, containers and equipment shall be permitted to be used inside of buildings or structures in accordance with subparagraphs (2) through (11) of this paragraph.

(2) "Containers in use" means connected for use.

(3) Systems utilizing containers having a water capacity greater than 2½ pounds (nominal 1 pound LP-Gas capacity) shall be equipped with excess flow valves. Such excess flow valves shall be either integral with the container valves or in the connections to the container valve outlets.

(4) Regulators shall be either directly connected to the container valves or to manifolds connected to the container valves. The regulator shall be suitable for use with LP-Gas. Manifolds and fittings connecting containers to pressure regulator inlets shall be designed for at least 250 p.s.i.g. service pressure.

(5) Valves on containers having water capacity greater than 50 pounds (nominal 20 pounds LP-Gas capacity) shall be protected from damage while in use or storage.

(6) Aluminum piping or tubing shall not be used.

(7) Hose shall be designed for a working pressure of at least 250 p.s.i.g. Design, construction, and performance of hose, and hose connections shall have their suitability determined by listing by a nationally recognized testing agency. The hose length shall be as short as practicable. Hoses shall be long enough to permit compliance with spacing provisions of subparagraphs (1)-(13) of this paragraph, without kinking or straining, or

causing hose to be so close to a burner as to be damaged by heat.

(8) Portable heaters, including salamanders, shall be equipped with an approved automatic device to shut off the flow of gas to the main burner, and pilot if used, in the event of flame failure. Such heaters, having inputs above 50,000 B.t.u. per hour, shall be equipped with either a pilot, which must be lighted and proved before the main burner can be turned on, or an electrical ignition system.

NOTE: The provisions of this subparagraph do not apply to portable heaters under 7,500 B.t.u. per hour input when used with containers having a maximum water capacity of 2½ pounds.

(9) Container valves, connectors, regulators, manifolds, piping, and tubing shall not be used as structural supports for heaters.

(10) Containers, regulating equipment, manifolds, pipe, tubing, and hose shall be located to minimize exposure to high temperatures or physical damage.

(11) Containers having a water capacity greater than 2½ pounds (nominal 1 pound LP-Gas capacity) connected for use shall stand on a firm and substantially level surface and, when necessary, shall be secured in an upright position.

(12) The maximum water capacity of individual containers shall be 245 pounds (nominal 100 pounds LP-Gas capacity).

(13) For temporary heating, heaters (other than integral heater-container units) shall be located at least 6 feet from any LP-Gas container. This shall not prohibit the use of heaters specifically designed for attachment to the container or to a supporting standard, provided they are designed and installed so as to prevent direct or radiant heat application from the heater onto the containers. Blower and radiant type heaters shall not be directed toward any LP-Gas container within 20 feet.

(14) If two or more heater-container units, of either the integral or nonintegral type, are located in an unpartitioned area on the same floor, the container or containers of each unit shall be separated from the container or containers of any other unit by at least 20 feet.

(15) When heaters are connected to containers for use in an unpartitioned area on the same floor, the total water capacity of containers, manifolded together for connection to a heater or heaters, shall not be greater than 735 pounds (nominal 300 pounds LP-Gas capacity). Such manifolds shall be separated by at least 20 feet.

(16) Storage of containers awaiting use shall be in accordance with paragraphs (j) and (k) of this section.

(i) *Multiple container systems.* (1) Valves in the assembly of multiple container systems shall be arranged so that replacement of containers can be made without shutting off the flow of gas in the system. This provision is not to be construed as requiring an automatic changeover device.

(2) Heaters shall be equipped with an approved regulator in the supply line

between the fuel cylinder and the heater unit. Cylinder connectors shall be provided with an excess flow valve to minimize the flow of gas in the event the fuel line becomes ruptured.

(3) Regulators and low-pressure relief devices shall be rigidly attached to the cylinder valves, cylinders, supporting standards, the building walls, or otherwise rigidly secured, and shall be so installed or protected from the elements.

(j) *Storage of LPG containers.* Storage of LPG within buildings is prohibited.

(k) *Storage outside of buildings.* (1) Storage outside of buildings, for containers awaiting use, shall be located from the nearest building or group of buildings, in accordance with the following:

TABLE F-3

Quantity of LP-Gas stored:	Distance (feet)
500 lbs. or less.....	0
501 to 8,000 lbs.....	10
8,001 to 10,000 lbs.....	20
Over 10,000 lbs.....	25

(2) Containers shall be in a suitable ventilated enclosure or otherwise protected against tampering.

(l) *Fire protection.* Storage locations shall be provided with at least one approved portable fire extinguisher having a rating of not less than 20-B:C.

§ 1926.154 Temporary heating devices.

(a) *Ventilation.* (1) Fresh air shall be supplied in sufficient quantities to maintain the health and safety of workmen. Where natural means of fresh air supply is inadequate, mechanical ventilation shall be provided.

(2) When heaters are used in confined spaces, special care shall be taken to provide sufficient ventilation in order to ensure proper combustion, maintain the health and safety of workmen, and limit temperature rise in the area.

(b) *Clearance and mounting.* (1) Temporary heating devices shall be installed to provide clearance to combustible material not less than the amount shown in Table F-4.

(2) Temporary heating devices, which are listed for installation with lesser clearances than specified in Table F-4, may be installed in accordance with their approval.

TABLE F-4

Heating appliances	Minimum clearance, (inches)		
	Sides	Rear	Chimney connector
Room heater, circulating type.....	12	12	18
Room heater, radiant type....	36	36	18

(3) Heaters not suitable for use on wood floors shall not be set directly upon them or other combustible materials. When such heaters are used, they shall rest on suitable heat insulating material or at least 1-inch concrete, or equivalent. The insulating material shall extend beyond the heater 2 feet or more in all directions.

(4) Heaters used in the vicinity of combustible tarpaulins, canvas, or similar coverings shall be located at least 10 feet from the coverings. The coverings shall be securely fastened to prevent ignition or upsetting of the heater due to wind action on the covering or other material.

(c) *Stability.* Heaters, when in use, shall be set horizontally level, unless otherwise permitted by the manufacturer's markings.

(d) *Solid fuel salamanders.* Solid fuel salamanders are prohibited in buildings and on scaffolds.

(e) *Oil-fired heaters.* (1) Flammable liquid-fired heaters shall be equipped with a primary safety control to stop the flow of fuel in the event of flame failure. Barometric or gravity oil feed shall not be considered a primary safety control.

(2) Heaters designed for barometric or gravity oil feed shall be used only with the integral tanks.

(3) [Revoked]

(4) Heaters specifically designed and approved for use with separate supply tanks may be directly connected for gravity feed, or an automatic pump, from a supply tank.

§ 1926.155 Definitions applicable to this subpart.

(a) "Approved", for the purpose of this subpart, means equipment that has been listed or approved by a nationally recognized testing laboratory such as Factory Mutual Engineering Corp., or Underwriters' Laboratories, Inc., or Federal agencies such as Bureau of Mines, or U.S. Coast Guard, which issue approvals for such equipment.

(b) "Closed container" means a container so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures.

(c) "Combustible liquids" mean any liquid having a flash point at or above 140° F. (60° C.), and below 200° F. (93.4° C.).

(d) "Combustion" means any chemical process that involves oxidation sufficient to produce light or heat.

(e) "Fire brigade" means an organized group of employees that are knowledgeable, trained, and skilled in the safe evacuation of employees during emergency situations and in assisting in fire fighting operations.

(f) "Fire resistance" means so resistant to fire that, for specified time and under conditions of a standard heat intensity, it will not fail structurally and will not permit the side away from the fire to become hotter than a specified temperature. For purposes of this part, fire resistance shall be determined by the Standard Methods of Fire Tests of Building Construction and Materials, NFPA 251-1969.

(g) "Flammable" means capable of being easily ignited, burning intensely, or having a rapid rate of flame spread.

(h) "Flammable liquids" means any liquid having a flash point below 140° F. and having a vapor pressure not exceeding 40 pounds per square inch (absolute) at 100° F.

(i) "Flash point" of the liquid means the temperature at which it gives off vapor sufficient to form an ignitable mixture with the air near the surface of the liquid or within the vessel used as determined by appropriate test procedure and apparatus as specified below.

(1) The flash point of liquids having a viscosity less than 45 Saybolt Universal Second(s) at 100° F. (37.8° C.) and a flash point below 175° F. (79.4° C.) shall be determined in accordance with the Standard Method of Test for Flash Point by the Tag Closed Tester, ASTM D-56-69.

(2) The flash point of liquids having a viscosity of 45 Saybolt Universal Second(s) or more at 175° F. (79.4° C.) or higher shall be determined in accordance with the Standard Method of Test for Flash Point by the Pensky Martens Closed Tester, ASTM D-93-69.

(j) "Liquefied petroleum gases," "LPG" and "LP Gas" mean and include any material which is composed predominantly of any of the following hydrocarbons, or mixtures of them, such as propane, propylene, butane (normal butane or iso-butane), and butylenes.

(k) "Portable tank" means a closed container having a liquid capacity more than 60 U.S. gallons, and not intended for fixed installation.

(l) "Safety can" means an approved closed container, of not more than 5 gallons capacity, having a flash-arresting screen, spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure.

(m) "Vapor pressure" means the pressure, measured in pounds per square inch (absolute), exerted by a volatile liquid as determined by the "Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)." (ASTM D-323-58).

Subpart G—Signs, Signals, and Barricades

§ 1926.200 Accident prevention signs and tags.

(a) *General.* Signs and symbols required by this subpart shall be visible at all times when work is being performed, and shall be removed or covered promptly when the hazards no longer exist.

(b) *Danger signs.* (1) Danger signs (see Figure G-1) shall be used only where an immediate hazard exists.

(2) Danger signs shall have red as the predominating color for the upper panel;

black outline on the borders; and a white lower panel for additional sign wording.

(c) *Caution signs.* (1) Caution signs (see Figure G-2) shall be used only to warn against potential hazards or to caution against unsafe practices.

(2) Caution signs shall have yellow as the predominating color; black upper panel and borders; yellow lettering of "caution" on the black panel; and the lower yellow panel for additional sign wording. Black lettering shall be used for additional wording.

Figure G-1



Figure G-2



(d) *Exit signs.* Exit signs, when required, shall be lettered in legible red letters, not less than 6 inches high, on a white field and the principal stroke of the letters shall be at least three-fourths inch in width.

(e) *Safety instruction signs.* Safety instruction signs, when used, shall be white with green upper panel with white letters to convey the principal message. Any additional wording on the sign shall be black letters on the white background.

(f) *Directional signs.* Directional signs, other than automotive traffic signs specified in paragraph (g) of this section, shall be white with a black panel and a white directional symbol. Any additional wording on the sign shall be black letters on the white background.

(g) *Traffic signs.* (1) Construction areas shall be posted with legible traffic signs at points of hazard.

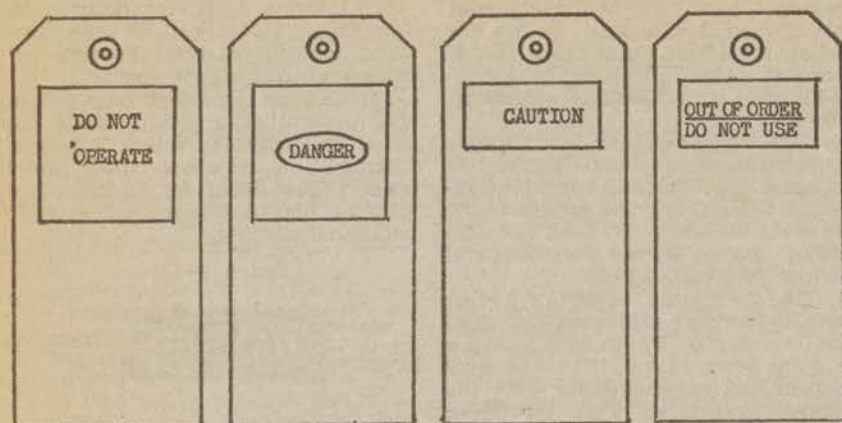
(2) All traffic control signs or devices used for protection of construction workmen shall conform to American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways.

(h) *Accident prevention tags.* (1) Accident prevention tags shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc. They shall not be used in place of, or as a substitute for, accident prevention signs.

(2) Specifications for accident prevention tags similar to those in Table G-1 shall apply.

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Table G-1



White tag - White letters on red square

White tag - White letters on red oval with a black square

Yellow tag - Yellow letters on a black background

White tag - White letters on black background

Basic Stock (Background)	Safety Colors (Ink)	Copy Specification (Letters)
White	Red	Do Not Operate
White	Black and Red	Danger
Yellow	Black	Caution
White	Black	Out of Order Do Not Use

(1) *Additional rules.* American National Standards Institute (ANSI) Z35.1-1968, Specifications for Accident Prevention Signs, and Z35.2-1968, Specifications for Accident Prevention Tags, contain rules which are additional to the rules prescribed in this section. The employer shall comply with ANSI Z35.1-1968 and Z35.2-1968 with respect to rules not specifically prescribed in this subpart.

§ 1926.201 Signaling.

(a) *Flagmen.* (1) When operations are such that signs, signals, and barricades do not provide the necessary protection on or adjacent to a highway or street, flagmen or other appropriate traffic controls shall be provided.

(2) Signaling directions by flagmen shall conform to American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways.

(3) Hand signaling by flagmen shall be by use of red flags at least 18 inches square or sign paddles, and in periods of darkness, red lights.

(4) Flagmen shall be provided with and shall wear a red or orange warning garment while flagging. Warning garments worn at night shall be of reflectorized material.

(b) *Crane and hoist signals.* Regulations for crane and hoist signaling will be found in applicable American National Standards Institute standards.

§ 1926.202 Barricades.

Barricades for protection of employees shall conform to the portions of the American National Standards Institute D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways, relating to barricades.

§ 1926.203 Definitions applicable to this Subpart.

(a) "Barricade" means an obstruction to deter the passage of persons or vehicles.

(b) "Signs" are the warnings of hazard, temporarily or permanently affixed or placed, at locations where hazards exist.

(c) "Signals" are moving signs, provided by workers, such as flagmen, or by devices, such as flashing lights, to warn of possible or existing hazards.

(d) "Tags" are temporary signs, usually attached to a piece of equipment or part of a structure, to warn of existing or immediate hazards.

Subpart H—Materials Handling, Storage, Use, and Disposal

§ 1926.250 General requirements for storage.

(a) *General.* (1) All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

(2) Maximum safe load limits of floors within buildings and structures, in pounds per square foot, shall be conspicuously posted in all storage areas, except for floor or slab on grade. Maximum safe loads shall not be exceeded.

(3) Aisles and passageways shall be kept clear to provide for the free and safe movement of material handling equipment or employees. Such areas shall be kept in good repair.

(4) When a difference in road or working levels exist, means such as ramps, blocking, or grading shall be used to ensure the safe movement of vehicles between the two levels.

(b) *Material storage.* (1) Material stored inside buildings under construction shall not be placed within 8 feet of any hoistway or inside floor openings, nor within 10 feet of an exterior wall which does not extend above the top of the material stored.

(2) Employees required to work on stored material in silos, hoppers, tanks, and similar storage areas shall be equipped with lifelines and safety belts meeting the requirements of Subpart E of this part.

(3) Noncompatible materials shall be segregated in storage.

(4) Bagged materials shall be stacked by stepping back the layers and cross-keying the bags at least every 10 bags high.

(5) Materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations.

(6) Brick stacks shall not be more than 7 feet in height. When a loose brick stack reaches a height of 4 feet, it shall be tapered back 2 inches in every foot of height above the 4-foot level.

(7) When masonry blocks are stacked higher than 6 feet, the stack shall be tapered back one-half block per tier above the 6-foot level.

(8) Lumber:

(i) Used lumber shall have all nails withdrawn before stacking.

(ii) Lumber shall be stacked on level and solidly supported sills.

(iii) Lumber shall be so stacked as to be stable and self-supporting.

(iv) Lumber piles shall not exceed 20 feet in height provided that lumber to be handled manually shall not be stacked more than 16 feet high.

(9) Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked so as to prevent spreading or tilting.

§ 1926.251 Rigging equipment for material handling.

(a) *General.* (1) Rigging equipment for material handling shall be inspected prior to use on each shift and as nec-

essary during its use to ensure that it is safe. Defective rigging equipment shall be removed from service.

(2) Rigging equipment shall not be loaded in excess of its recommended safe working load, as prescribed in Tables H-1 through H-20 in this subpart, following § 1926.252(e) for the specific equipment.

(3) Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees.

(4) Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load.

(b) *Alloy steel chains.* (1) Welded alloy steel chain slings shall have permanently affixed durable identification stating size, grade, rated capacity, and sling manufacturer.

(2) Hooks, rings, oblong links, pear-shaped links, welded or mechanical coupling links, or other attachments, when used with alloy steel chains, shall have a rated capacity at least equal to that of the chain.

(3) Job or shop hooks and links, or makeshift fasteners, formed from bolts, rods, etc., or other such attachments, shall not be used.

(4) Rated capacity (working load limit) for alloy steel chain slings shall conform to the values shown in Table H-1.

(5) Whenever wear at any point of any chain link exceeds that shown in Table H-2, the assembly shall be removed from service.

(c) *Wire rope.* (1) Tables H-3 through H-14 shall be used to determine the safe working loads of various sizes and classifications of improved plow steel wire rope and wire rope slings with various types of terminals. For sizes, classifications, and grades not included in these tables, the safe working load recommended by the manufacturer for specific, identifiable products shall be followed, provided that a safety factor of not less than 5 is maintained.

(2) Protruding ends of strands in splices on slings and bridles shall be covered or blunted.

(3) Wire rope shall not be secured by knots, except on haul back lines on scrapers.

(4) The following limitations shall apply to the use of wire rope:

(i) An eye splice made in any wire rope shall have not less than three full tucks. However, this requirement shall

not operate to preclude the use of another form of splice or connection which can be shown to be as efficient and which is not otherwise prohibited.

(ii) Except for eye splices in the ends of wires and for endless rope slings, each wire rope used in hoisting or lowering, or in pulling loads, shall consist of one continuous piece without knot or splice.

(iii) Eyes in wire rope bridles, slings, or bull wires shall not be formed by wire rope clips or knots.

(iv) Wire rope shall not be used if, in any length of eight diameters, the total number of visible broken wires exceeds 10 percent of the total number of wires, or if the rope shows other signs of excessive wear, corrosion, or defect.

(5) When U-bolt wire rope clips are used to form eyes, Table H-20 shall be used to determine the number and spacing of clips.

(i) When used for eye splices, the U-bolt shall be applied so that the "U" section is in contact with the dead end of the rope.

(d) *Natural rope, and synthetic fiber—*

(1) *General.* When using natural or synthetic fiber rope slings, Tables H-15, 16, 17, and 18 shall apply.

(2) All splices in rope slings provided by the employer shall be made in accordance with fiber rope manufacturers recommendations.

(i) In manila rope, eye splices shall contain at least three full tucks, and short splices shall contain at least six full tucks (three on each side of the centerline of the splice).

(ii) In layed synthetic fiber rope, eye splices shall contain at least four full tucks, and short splices shall contain at least eight full tucks (four on each side of the centerline of the splice).

(iii) Strand end tails shall not be trimmed short (flush with the surface of the rope) immediately adjacent to the full tucks. This precaution applies to both eye and short splices and all types of fiber rope. For fiber ropes under 1-inch diameter, the tails shall project at least six rope diameters beyond the last full tuck. For fiber ropes 1-inch diameter and larger, the tails shall project at least 6 inches beyond the last full tuck. In applications where the projecting tails may be objectionable, the tails shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

(iv) For all eye splices, the eye shall be sufficiently large to provide an included angle of not greater than 60° at the splice when the eye is placed over the load or support.

(v) Knots shall not be used in lieu of splices.

(e) *Synthetic webbing (nylon, polyester, and polypropylene).* (1) The employer shall have each synthetic web sling marked or coded to show:

(i) Name or trademark of manufacturer.

(ii) Rated capacities for the type of hitch.

(iii) Type of material.

(2) Rated capacity shall not be exceeded.

(f) *Shackles and hooks.* (1) Table H-19 shall be used to determine the safe working loads of various sizes of shackles, except that higher safe working loads are permissible when recommended by the manufacturer for specific, identifiable products, provided that a safety factor of not less than 5 is maintained.

(2) The manufacturer's recommendations shall be followed in determining the safe working loads of the various sizes and types of specific and identifiable hooks. All hooks for which no applicable manufacturer's recommendations are available shall be tested to twice the intended safe working load before they are initially put into use. The employer shall maintain a record of the dates and results of such tests.

§ 1926.252 Disposal of waste materials.

(a) Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, an enclosed chute of wood, or equivalent material, shall be used. For the purpose of this paragraph, an enclosed chute is a slide, closed in on all sides, through which material is moved from a high place to a lower one.

(b) When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above. Signs warning of the hazard of falling materials shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

(c) All scrap lumber, waste material, and rubbish shall be removed from the immediate work area as the work progresses.

(d) Disposal of waste material or debris by burning shall comply with local fire regulations.

(e) All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from worksite.

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Table H-1
 RATED CAPACITY (WORKING LOAD LIMIT), FOR ALLOY STEEL CHAIN SLINGS*
 RATED CAPACITY (WORKING LOAD LIMIT), POUNDS

Chain Size, Inches	Single Branch Sling - 90 degree Loading	Double Sling Vertical Angle (1)			Triple and Quadruple Sling Vertical Angle (1)		
		30 degree	45 degree	60 degree	30 degree	45 degree	60 degree
		Horizontal Angle (2)			Horizontal Angle (2)		
		60 degree	45 degree	30 degree	60 degree	45 degree	30 degree
1/4	3,250	5,560	4,550	3,250	8,400	6,800	4,900
3/8	6,600	11,400	9,300	6,600	17,000	14,000	9,900
1/2	11,250	19,500	15,900	11,250	29,000	24,000	17,000
5/8	16,500	28,500	23,300	16,500	43,000	35,000	24,500
3/4	23,000	39,800	32,500	23,000	59,500	48,500	34,500
7/8	28,750	49,800	40,600	28,750	74,500	61,000	43,000
1	38,750	67,100	54,800	38,750	101,000	82,000	58,000
1-1/8	44,500	77,000	63,000	44,500	115,500	94,500	66,500
1-1/4	57,500	99,500	81,000	57,500	149,000	121,500	86,000
1-3/8	67,000	116,000	94,000	67,000	174,000	141,000	100,500
1-1/2	80,000	138,000	112,500	80,000	207,000	169,000	119,500
1-3/4	100,000	172,000	140,000	100,000	258,000	210,000	150,000

(1) Rating of multileg slings adjusted for angle of loading measured as the included angle between the inclined leg and the vertical.

(2) Rating of multileg slings adjusted for angle of loading between the inclined leg and the horizontal plane of the load.

*Other grades of proof tested steel chain include Proof Coil, BBB Coil and Hi-Test Chain. These grades are not recommended for overhead lifting and therefore are not covered by this code.

TABLE H-2—MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK

Chain size (inches)	Maximum allowable wear (inch)	Chain size (inches)	Maximum allowable wear (inch)
1/4	3/64	7/8	11/64
3/8	5/64	1	3/16
1/2	7/64	1 1/8	7/32
5/8	9/64	1 1/4	1/4
3/4	5/32	1 3/8	9/32
		1 1/2	5/16
		1 3/4	11/32

Table H-3
 RATED CAPACITIES FOR SINGLE LEG SLINGS
 6 x 19 AND 6 x 37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE
 WITH FIBER CORE (FC)

Rope		Rated Capacities, Tons (2,000 lb)								
Dia (Inches)	Constr	Vertical			Choker			Vertical Basket*		
		HT	MS	S	HT	MS	S	HT	MS	S
1/4	6 x 19	0.49	0.51	0.55	0.37	0.38	0.41	0.99	1.0	1.1
5/16	6 x 19	0.76	0.79	0.85	0.57	0.59	0.64	1.5	1.6	1.7
3/8	6 x 19	1.1	1.1	1.2	0.80	0.85	0.91	2.1	2.2	2.4
7/16	6 x 19	1.4	1.5	1.6	1.1	1.1	1.2	2.9	3.0	3.3
1/2	6 x 19	1.8	2.0	2.1	1.4	1.5	1.6	3.7	3.9	4.3
9/16	6 x 19	2.3	2.5	2.7	1.7	1.9	2.0	4.6	5.0	5.4
5/8	6 x 19	2.8	3.1	3.3	2.1	2.3	2.5	5.6	6.2	6.7
3/4	6 x 19	3.9	4.4	4.8	2.9	3.3	3.6	7.8	8.8	9.5
7/8	6 x 19	5.1	5.9	6.4	3.9	4.5	4.8	10.0	12.0	13.0
1	6 x 19	6.7	7.7	8.4	5.0	5.8	6.3	13.0	15.0	17.0
1-1/8	6 x 19	8.4	9.5	10.0	6.3	7.1	7.9	17.0	19.0	21.0
1-1/4	6 x 37	9.8	11.0	12.0	7.4	8.3	9.2	20.0	22.0	25.0
1-3/8	6 x 37	12.0	13.0	15.0	8.9	10.0	11.0	24.0	27.0	30.0
1-1/2	6 x 37	14.0	16.0	17.0	10.0	12.0	13.0	28.0	32.0	35.0
1-5/8	6 x 37	16.0	18.0	21.0	12.0	14.0	15.0	33.0	37.0	41.0
1-3/4	6 x 37	19.0	21.0	24.0	14.0	16.0	18.0	38.0	43.0	48.0
2	6 x 37	25.0	28.0	31.0	18.0	21.0	23.0	49.0	55.0	62.0

HT = Hand Tucked Splice and Hidden Tuck Splice

For hidden tuck splice (HTWC) use values in HT columns.

MS = Mechanical Splice

S = Swaged or Zinc Poured Socket

*These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S slings is 20 or greater where:

D = Diameter of curvature around which the body of the sling is bent.

d = Diameter of rope.

Table H-4
RATED CAPACITIES FOR SINGLE LEG SLINGS
6 x 19 AND 6 x 37 CLASSIFICATION IMPROVED FLOW STEEL GRADE ROPE
WITH INDEPENDENT WIRE ROPE CORE (IWRC)

Rope		Rated Capacities, Tons (2,000 lb)								
Dia (Inches)	Constr	Vertical			Choker			Vertical Basket*		
		HT	MS	S	HT	MS	S	HT	MS	S
1/4	6 x 19	0.53	0.55	0.59	0.40	0.42	0.44	1.0	1.1	1.2
5/16	6 x 19	0.81	0.87	0.92	0.61	0.65	0.69	1.6	1.7	1.8
3/8	6 x 19	1.1	1.2	1.3	0.86	0.93	0.98	2.3	2.5	2.6
7/16	6 x 19	1.5	1.7	1.8	1.2	1.3	1.3	3.1	3.4	3.5
1/2	6 x 19	2.0	2.2	2.3	1.5	1.6	1.7	3.9	4.4	4.6
9/16	6 x 19	2.5	2.7	2.9	1.8	2.1	2.2	4.9	5.5	5.8
5/8	6 x 19	3.0	3.4	3.6	2.2	2.5	2.7	6.0	6.8	7.2
3/4	6 x 19	4.2	4.9	5.1	3.1	3.6	3.8	8.4	9.7	10.0
7/8	6 x 19	5.5	6.6	6.9	4.1	4.9	5.2	11.0	13.0	14.0
1	6 x 19	7.2	8.5	9.0	5.4	6.4	6.7	14.0	17.0	18.0
1-1/8	6 x 19	9.0	10.0	11.0	6.8	7.8	8.5	18.0	21.0	23.0
1-1/4	6 x 37	10.0	12.0	13.0	7.9	9.2	9.9	21.0	24.0	26.0
1-3/8	6 x 37	13.0	15.0	16.0	9.6	11.0	12.0	25.0	29.0	32.0
1-1/2	6 x 37	15.0	17.0	19.0	11.0	13.0	14.0	30.0	35.0	38.0
1-5/8	6 x 37	18.0	20.0	22.0	13.0	15.0	17.0	35.0	41.0	44.0
1-3/4	6 x 37	20.0	24.0	26.0	15.0	18.0	19.0	41.0	47.0	51.0
2	6 x 37	26.0	30.0	33.0	20.0	23.0	25.0	53.0	61.0	66.0

HT = Hand Tucked Splice

For hidden tuck splice (IWRC) use Table H-3 values in HT column.

MS = Mechanical Splice.

S = Swaged or Zinc Poured Socket.

*These values only apply when the D/d ratio for HT slings is 10 or greater, and for MS and S slings is 20 or greater where:
D = Diameter of curvature around which the body of the sling is bent,
d = Diameter of rope.

Table H-5
RATED CAPACITIES FOR SINGLE LEG SLINGS
CABLE LAID ROPE - MECHANICAL SPLICE ONLY
7 x 7 x 7 & 7 x 7 x 19 CONSTRUCTIONS GALVANIZED AIRCRAFT GRADE ROPE
7 x 6 x 19 IWRC CONSTRUCTION IMPROVED FLOW STEEL GRADE ROPE

Rope		Rated Capacities, Tons (2,000 lb)		
Dia (Inches)	Constr	Vertical		
		Vertical	Choker	Vertical Basket*
1/4	7 x 7 x 7	0.50	0.38	1.0
3/8	7 x 7 x 7	1.1	0.81	2.2
1/2	7 x 7 x 7	1.8	1.4	3.7
5/8	7 x 7 x 7	2.8	2.1	5.5
3/4	7 x 7 x 7	3.8	2.9	7.6
5/8	7 x 7 x 19	2.9	2.2	5.8
3/4	7 x 7 x 19	4.1	3.0	8.1
7/8	7 x 7 x 19	5.4	4.0	11.0
1	7 x 7 x 19	6.9	5.1	14.0
1-1/8	7 x 7 x 19	8.2	6.2	16.0
1-1/4	7 x 7 x 19	9.9	7.4	20.0
3/4	7 x 6 x 19 IWRC	3.8	2.8	7.6
7/8	7 x 6 x 19 IWRC	5.0	3.8	10.0
1	7 x 6 x 19 IWRC	6.4	4.8	13.0
1-1/8	7 x 6 x 19 IWRC	7.7	5.8	15.0
1-1/4	7 x 6 x 19 IWRC	9.2	6.9	18.0
1-5/16	7 x 6 x 19 IWRC	10.0	7.5	20.0
1-3/8	7 x 6 x 19 IWRC	11.0	8.2	22.0
1-1/2	7 x 6 x 19 IWRC	13.0	9.6	26.0

*These values only apply when the D/d ratio is 10 or greater where:

D = Diameter of curvature around which the body of the sling is bent,
d = Diameter of rope.

Table H-6
RATED CAPACITIES FOR SINGLE LEG SLINGS
8-PART AND 6-PART BRAIDED ROPE
6 x 7 AND 6 x 19 CONSTRUCTION IMPROVED FLOW STEEL GRADE ROPE
7 x 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

Component Ropes		Rated Capacities, Tons (2,000 lb)					
Diameter (Inches)	Constr	Vertical		Choker		Basket Vertical to 30 degree*	
		8-Part	6-Part	8-Part	6-Part	8-Part	6-Part
3/32	6 x 7	0.42	0.32	0.32	0.24	0.74	0.55
1/8	6 x 7	0.76	0.57	0.57	0.42	1.3	0.98
3/16	6 x 7	1.7	1.3	1.3	0.94	2.9	2.2
3/32	7 x 7	0.51	0.39	0.38	0.29	0.89	0.67
1/8	7 x 7	0.95	0.71	0.71	0.53	1.6	1.2
3/16	7 x 7	2.1	1.5	1.5	1.2	3.6	2.7
3/16	6 x 19	1.7	1.3	1.3	0.98	3.0	2.2
1/4	6 x 19	3.1	2.3	2.3	1.7	5.3	4.0
5/16	6 x 19	4.8	3.6	3.6	2.7	8.3	6.2
3/8	6 x 19	6.8	5.1	5.1	3.8	12.0	8.9
7/16	6 x 19	9.3	6.9	6.9	5.2	16.0	12.0
1/2	6 x 19	12.0	9.0	9.0	6.7	21.0	15.0
9/16	6 x 19	15.0	11.0	11.0	8.5	26.0	20.0
5/8	6 x 19	19.0	14.0	14.0	10.0	32.0	24.0
3/4	6 x 19	27.0	20.0	20.0	15.0	46.0	35.0
7/8	6 x 19	36.0	27.0	27.0	20.0	62.0	47.0
1	6 x 19	47.0	35.0	35.0	26.0	81.0	61.0

*These values only apply when the D/d ratio is 20 or greater where:

D = Diameter of curvature around which the body of the sling is bent,
d = Diameter of component rope.

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Table H-7
 RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS
 6 x 19 AND 6 x 37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE
 WITH FIBER CORE (FC)

Rope		Rated Capacities, Tons (2,000 lb)											
		2-Leg Bridle Slings						3-Leg Bridle Slings					
		Vert 30 degree		45 degree		Vert 60 degree		Vert 30 degree		45 degree		Vert 60 degree	
		Horz 60 degree		Angle		Horz 30 degree		Horz 60 degree		Angle		Horz 30 degree	
Dia (Inches)	Constr	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.85	0.88	0.70	0.72	0.49	0.51	1.3	1.3	1.0	1.1	0.74	0.7
5/16	6 x 19	1.3	1.4	1.1	1.1	0.76	0.79	2.0	2.0	1.6	1.7	1.1	1.2
3/8	6 x 19	1.8	1.9	1.5	1.6	1.1	1.1	2.8	2.9	2.3	2.4	1.6	1.7
7/16	6 x 19	2.5	2.6	2.0	2.2	1.4	1.5	3.7	4.0	3.0	3.2	2.1	2.3
1/2	6 x 19	3.2	3.4	2.6	2.8	1.8	2.0	4.8	5.1	3.9	4.2	2.8	3.0
9/16	6 x 19	4.0	4.3	3.2	3.5	2.3	2.5	6.0	6.5	4.9	5.3	3.4	3.7
5/8	6 x 19	4.8	5.3	4.0	4.4	2.8	3.1	7.3	8.0	5.9	6.5	4.2	4.6
3/4	6 x 19	6.8	7.6	5.5	6.2	3.9	4.4	10.0	11.0	8.3	9.3	5.8	6.6
7/8	6 x 19	8.9	10.0	7.3	8.4	5.1	5.9	13.0	15.0	11.0	13.0	7.7	8.9
1	6 x 19	11.0	13.0	9.4	11.0	6.7	7.7	17.0	20.0	14.0	16.0	10.0	11.0
1-1/8	6 x 19	14.0	16.0	12.0	13.0	8.4	9.5	22.0	24.0	18.0	20.0	13.0	14.0
1-1/4	6 x 37	17.0	19.0	14.0	16.0	9.8	11.0	25.0	29.0	21.0	23.0	15.0	17.0
1-3/8	6 x 37	20.0	23.0	17.0	19.0	12.0	13.0	31.0	35.0	25.0	28.0	18.0	20.0
1-1/2	6 x 37	24.0	27.0	20.0	22.0	14.0	16.0	36.0	41.0	30.0	33.0	21.0	24.0
1-5/8	6 x 37	28.0	32.0	23.0	26.0	16.0	18.0	43.0	48.0	35.0	39.0	25.0	28.0
1-3/4	6 x 37	33.0	37.0	27.0	30.0	19.0	21.0	49.0	56.0	40.0	45.0	28.0	32.0
2	6 x 37	43.0	48.0	35.0	39.0	25.0	28.0	64.0	72.0	52.0	59.0	37.0	41.0

HT = Hand Tucked Splice.
 MS = Mechanical Splice

Table H-8
 RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS
 6 x 19 AND 6 x 37 CLASSIFICATION IMPROVED PLOW STEEL GRADE ROPE
 WITH INDEPENDENT WIRE ROPE CORE (IWRC)

Rope		Rated Capacities, Tons (2,000 lb)											
		2-Leg Bridle Slings						3-Leg Bridle Slings					
		Vert 30 degree		45 degree		Vert 60 degree		Vert 30 degree		45 degree		Vert 60 degree	
		Horz 60 degree		Angle		Horz 30 degree		Horz 60 degree		Angle		Horz 30 degree	
Dia (Inches)	Constr	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS	HT	MS
1/4	6 x 19	0.92	0.97	0.75	0.79	0.53	0.56	1.4	1.4	1.1	1.2	0.79	0.84
5/16	6 x 19	1.4	1.5	1.1	1.2	1.81	0.87	2.1	2.3	1.7	1.8	1.2	1.3
3/8	6 x 19	2.0	2.1	1.6	1.8	1.1	1.2	3.0	3.2	2.4	2.6	1.7	1.9
7/16	6 x 19	2.7	2.9	2.2	2.4	1.5	1.7	4.0	4.4	3.3	3.6	2.3	2.5
1/2	6 x 19	3.4	3.8	2.8	3.1	2.0	2.2	5.1	5.7	4.2	4.6	3.0	3.3
9/16	6 x 19	4.3	4.8	3.5	3.9	2.5	2.7	6.4	7.1	5.2	5.8	3.7	4.1
5/8	6 x 19	5.2	5.9	4.2	4.8	3.0	3.4	7.8	8.8	6.4	7.2	4.5	5.1
3/4	6 x 19	7.3	8.4	5.9	6.9	4.2	4.9	11.0	13.0	8.9	10.0	6.3	7.3
7/8	6 x 19	9.6	11.0	7.8	9.3	5.5	6.6	14.0	17.0	12.0	14.0	8.3	9.9
1	6 x 19	12.0	15.0	10.0	12.0	7.2	8.5	19.0	22.0	15.0	18.0	11.0	13.0
1-1/8	6 x 19	16.0	18.0	13.0	15.0	9.0	10.0	23.0	27.0	19.0	22.0	13.0	16.0
1-1/4	6 x 37	18.0	21.0	15.0	17.0	10.0	12.0	27.0	32.0	22.0	26.0	16.0	18.0
1-3/8	6 x 37	22.0	25.0	18.0	21.0	13.0	15.0	33.0	38.0	27.0	31.0	19.0	22.0
1-1/2	6 x 37	26.0	30.0	21.0	25.0	15.0	17.0	39.0	45.0	32.0	37.0	23.0	26.0
1-5/8	6 x 37	31.0	35.0	25.0	29.0	18.0	20.0	46.0	53.0	38.0	43.0	27.0	31.0
1-3/4	6 x 37	35.0	41.0	29.0	33.0	20.0	24.0	53.0	61.0	43.0	50.0	31.0	35.0
2	6 x 37	46.0	53.0	37.0	43.0	26.0	30.0	68.0	79.0	56.0	65.0	40.0	46.0

HT = Hand Tucked Splice
 MS = Mechanical Splice

Table H-9
 RATED CAPACITIES FOR 2-LEG & 3-LEG BRIDLE SLINGS
 CABLE LAID ROPE - MECHANICAL SPLICE ONLY
 7 x 7 x 7 AND 7 x 7 x 19 CONSTRUCTIONS GALVANIZED AIRCRAFT GRADE ROPE
 7 x 6 x 19 IWRC CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE

Rope		Rated Capacities, Tons (2,000 lb)						
		2-Leg Bridle Sling			3-Leg Bridle Sling			
		Vert 30 deg	45 degree	Vert 60 deg	Vert 30 deg	45 degree	Vert 60 deg	
Dia (Inches)	Constr	Horz 60 deg	Angle	Horz 30 deg	Horz 60 deg	Angle	Horz 30 deg	
1/4	7 x 7 x 7	0.87	0.71	0.50	1.3	1.1	0.75	
3/8	7 x 7 x 7	1.9	1.5	1.1	2.8	2.3	1.6	
1/2	7 x 7 x 7	3.2	2.6	1.8	4.8	3.9	2.8	
5/8	7 x 7 x 7	4.8	3.9	2.8	7.2	5.9	4.2	
3/4	7 x 7 x 7	6.6	5.4	3.8	9.9	8.1	5.7	
5/8	7 x 7 x 19	5.0	4.1	2.9	7.5	6.1	4.3	
3/4	7 x 7 x 19	7.0	5.7	4.1	10.0	8.6	6.1	
7/8	7 x 7 x 19	9.3	7.6	5.4	14.0	11.0	8.1	
1	7 x 7 x 19	12.0	9.7	6.9	18.0	14.0	10.0	
1-1/8	7 x 7 x 19	14.0	12.0	8.2	21.0	17.0	12.0	
1-1/4	7 x 7 x 19	17.0	14.0	9.9	26.0	21.0	15.0	
3/4	7x6x19 IWRC	6.6	5.4	3.8	9.9	8.0	5.7	
7/8	7x6x19 IWRC	8.7	7.1	5.0	13.0	11.0	7.5	
1	7x6x19 IWRC	11.0	9.0	6.4	17.0	13.0	9.6	
1-1/8	7x6x19 IWRC	13.0	11.0	7.7	20.0	16.0	11.0	
1-1/4	7x6x19 IWRC	16.0	13.0	9.2	24.0	20.0	14.0	
1-5/16	7x6x19 IWRC	17.0	14.0	10.0	26.0	21.0	15.0	
1-3/8	7x6x19 IWRC	19.0	15.0	11.0	28.0	23.0	16.0	
1-1/2	7x6x19 IWRC	22.0	18.0	13.0	33.0	27.0	19.0	

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Table H-10
RATED CAPACITIES FOR 2-LEG AND 3-LEG BRIDLE SLINGS
8-PART AND 6-PART BRAIDED ROPE
6 x 7 AND 6 x 19 CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE
7 x 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

Component Rope		Rated Capacities, Tons (2,000 lb)											
Dia (Inches)	Constr	2-Leg Bridle Slings						3-Leg Bridle Slings					
		Vert 30 degree		45 degree		Vert 60 degree		Vert 30 degree		45 degree		Vert 60 degree	
		Horz 60 degree		Angle		Horz 30 degree		Horz 60 degree		Angle		Horz 30 degree	
		8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part	8-Part	6-Part
3/32	6 x 7	0.74	0.55	0.60	0.45	0.42	0.32	1.1	0.83	0.90	0.68	0.64	0.48
1/8	6 x 7	1.3	0.98	1.1	0.80	0.76	0.57	2.0	1.5	1.6	1.2	1.1	0.85
3/16	6 x 7	2.9	2.2	2.4	1.8	1.7	1.3	4.4	3.3	3.6	2.7	2.5	1.9
3/32	7 x 7	0.89	0.67	0.72	0.55	0.51	0.39	1.3	1.0	1.1	0.82	0.77	0.58
1/8	7 x 7	1.6	1.2	1.3	1.0	0.95	0.71	2.5	1.8	2.0	1.5	1.4	1.1
3/16	7 x 7	3.6	2.7	2.9	2.2	2.1	1.5	5.4	4.0	4.4	3.3	3.1	2.3
3/16	6 x 19	3.0	2.2	2.4	1.8	1.7	1.3	4.5	3.4	3.7	2.8	2.6	1.9
1/4	6 x 19	5.3	4.0	4.3	3.2	3.1	2.3	8.0	6.0	6.5	4.9	4.6	3.4
5/16	6 x 19	8.3	6.2	6.7	5.0	4.8	3.6	12.0	9.3	10.0	7.6	7.1	5.4
3/8	6 x 19	12.0	8.9	9.7	7.2	6.8	5.1	18.0	13.0	14.0	11.0	10.0	7.7
7/16	6 x 19	16.0	12.0	13.0	9.8	9.3	6.9	24.0	18.0	20.0	15.0	14.0	10.0
1/2	6 x 19	21.0	15.0	17.0	13.0	12.0	9.0	31.0	23.0	25.0	19.0	18.0	13.0
9/16	6 x 19	26.0	20.0	21.0	16.0	15.0	11.0	39.0	29.0	32.0	24.0	23.0	17.0
5/8	6 x 19	32.0	24.0	26.0	20.0	19.0	14.0	48.0	36.0	40.0	30.0	28.0	21.0
3/4	6 x 19	46.0	35.0	38.0	28.0	27.0	20.0	69.0	52.0	56.0	42.0	40.0	30.0
7/8	6 x 19	62.0	47.0	51.0	38.0	36.0	27.0	94.0	70.0	76.0	57.0	54.0	40.0
1	6 x 19	81.0	61.0	66.0	50.0	47.0	35.0	122.0	91.0	99.0	74.0	70.0	53.0

Table H-11
RATED CAPACITIES FOR STRAND LAID GROMMET - HAND TUCKED
IMPROVED PLOW STEEL GRADE ROPE

ROPE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Die (Inches)	Constr			
		Vertical	Choker	Vertical Basket*
1/4	7 x 19	0.85	0.64	1.7
5/16	7 x 19	1.3	1.0	2.6
3/8	7 x 19	1.9	1.4	3.8
7/16	7 x 19	2.6	1.9	5.2
1/2	7 x 19	3.3	2.5	6.7
9/16	7 x 19	4.2	3.1	8.4
5/8	7 x 19	5.2	3.9	10.0
3/4	7 x 19	7.4	5.6	15.0
7/8	7 x 19	10.0	7.5	20.0
1	7 x 19	13.0	9.7	26.0
1-1/8	7 x 19	16.0	12.0	32.0
1-1/4	7 x 37	18.0	14.0	37.0
1-3/8	7 x 37	22.0	16.0	44.0
1-1/2	7 x 37	26.0	19.0	52.0

* These values only apply when the D/d ratio is 5 or greater where:
D = Diameter of curvature around which rope is bent.
d = Diameter of rope body.

Table H-12
RATED CAPACITIES FOR CABLE LAID GROMMET - HAND TUCKED
7 x 6 x 7 AND 7 x 6 x 19 CONSTRUCTIONS IMPROVED PLOW STEEL GRADE ROPE
7 x 7 x 7 CONSTRUCTION GALVANIZED AIRCRAFT GRADE ROPE

CABLE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Die (Inches)	Constr			
		Vertical	Choker	Vertical Basket*
3/8	7 x 6 x 7	1.3	0.95	2.5
9/16	7 x 6 x 7	2.8	2.1	5.6
5/8	7 x 6 x 7	3.8	2.8	7.6
3/8	7 x 7 x 7	1.6	1.2	3.2
9/16	7 x 7 x 7	3.5	2.6	6.9
5/8	7 x 7 x 7	4.5	3.4	9.0
5/8	7 x 6 x 19	3.9	3.0	7.9
3/4	7 x 6 x 19	5.1	3.8	10.0
15/16	7 x 6 x 19	7.9	5.9	16.0
1-1/8	7 x 6 x 19	11.0	8.4	22.0
1-5/16	7 x 6 x 19	15.0	11.0	30.0
1-1/2	7 x 6 x 19	19.0	14.0	39.0
1-11/16	7 x 6 x 19	24.0	18.0	49.0
1-7/8	7 x 6 x 19	30.0	22.0	60.0
2-1/4	7 x 6 x 19	42.0	31.0	84.0
2-5/8	7 x 6 x 19	56.0	42.0	112.0

* These values only apply when the D/d ratio is 5 or greater where:
D = Diameter of curvature around which cable body is bent.
d = Diameter of cable body.

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Table H-13
 RATED CAPACITIES FOR STRAND LAID ENDLESS SLINGS-MECHANICAL JOINT
 IMPROVED PLOW STEEL GRADE ROPE

ROPE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	 Vertical	 Choker	 Vertical Basket*
1/4	6 x 19 IWRC	0.92	0.69	1.8
3/8	6 x 19 IWRC	2.0	1.5	4.1
1/2	6 x 19 IWRC	3.6	2.7	7.2
5/8	6 x 19 IWRC	5.6	4.2	11.0
3/4	6 x 19 IWRC	8.0	6.0	16.0
7/8	6 x 19 IWRC	11.0	8.1	21.0
1	6 x 19 IWRC	14.0	10.0	28.0
1-1/8	6 x 19 IWRC	18.0	13.0	35.0
1-1/4	6 x 37 IWRC	21.0	15.0	41.0
1-3/8	6 x 37 IWRC	25.0	19.0	50.0
1-1/2	6 x 37 IWRC	29.0	22.0	59.0

* These values only apply when the D/d ratio is 5 or greater where:
 D = Diameter of curvature around which rope is bent.
 d = Diameter of rope body.

Table H-14
 RATED CAPACITIES FOR CABLE LAID ENDLESS SLINGS-MECHANICAL JOINT
 7 x 7 x 7 AND 7 x 7 x 19 CONSTRUCTIONS GALVANIZED AIRCRAFT GRADE ROPE
 7 x 6 x 19 IWRC CONSTRUCTION IMPROVED PLOW STEEL GRADE ROPE

CABLE BODY		RATED CAPACITIES, TONS (2,000 lb)		
Dia (Inches)	Constr	 Vertical	 Choker	 Vertical Basket*
1/4	7 x 7 x 7	0.83	0.62	1.6
3/8	7 x 7 x 7	1.8	1.3	3.5
1/2	7 x 7 x 7	3.0	2.3	6.1
5/8	7 x 7 x 7	4.5	3.4	9.1
3/4	7 x 7 x 7	6.3	4.7	12.0
5/8	7 x 7 x 19	4.7	3.5	9.5
3/4	7 x 7 x 19	6.7	5.0	13.0
7/8	7 x 7 x 19	8.9	6.6	18.0
1	7 x 7 x 19	11.0	8.5	22.0
1-1/8	7 x 7 x 19	14.0	10.0	28.0
1-1/4	7 x 7 x 19	17.0	12.0	33.0
3/4	7 x 6 x 19 IWRC	6.2	4.7	12.0
7/8	7 x 6 x 19 IWRC	8.3	6.2	16.0
1	7 x 6 x 19 IWRC	10.0	7.9	21.0
1-1/8	7 x 6 x 19 IWRC	13.0	9.7	26.0
1-1/4	7 x 6 x 19 IWRC	16.0	12.0	31.0
1-3/8	7 x 6 x 19 IWRC	18.0	14.0	37.0
1-1/2	7 x 6 x 19 IWRC	22.0	16.0	43.0

* These values only apply when the D/d value is 5 or greater where:
 D = Diameter of curvature around which cable body is bent.
 d = Diameter of cable body.

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Table H-15
MANILA ROPE SLINGS

ROPE DIA- METER	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 5)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
Angle of Rope to Vertical					Angle of Rope to Vertical									
			0 deg	30 deg	45 deg	60 deg	0 deg	30 deg	45 deg	60 deg				
1/2	7.5	2,650	550	250	1,100	900	750	550	950	500	1,900	1,700	1,400	950
9/16	10.4	3,450	700	350	1,400	1,200	1,000	700	1,200	600	2,500	2,200	1,800	1,200
5/8	13.3	4,400	900	450	1,800	1,500	1,200	900	1,600	800	3,200	2,700	2,200	1,600
3/4	16.7	5,400	1,100	550	2,200	1,900	1,500	1,100	2,000	950	3,900	3,400	2,800	2,000
13/16	19.5	6,500	1,300	650	2,600	2,300	1,800	1,300	2,300	1,200	4,700	4,100	3,300	2,300
7/8	22.5	7,700	1,500	750	3,100	2,700	2,200	1,500	2,800	1,400	5,600	4,800	3,900	2,800
1	27.0	9,000	1,800	900	3,600	3,100	2,600	1,800	3,200	1,600	6,500	5,600	4,600	3,200
1 1/16	31.3	10,500	2,100	1,100	4,200	3,600	3,000	2,100	3,800	1,900	7,600	6,600	5,400	3,800
1 1/8	36.0	12,000	2,400	1,200	4,800	4,200	3,400	2,400	4,300	2,200	8,600	7,500	6,100	4,300
1 1/4	41.7	13,500	2,700	1,400	5,400	4,700	3,800	2,700	4,900	2,400	9,700	8,400	6,900	4,900
1 5/16	47.9	15,000	3,000	1,500	6,000	5,200	4,300	3,000	5,400	2,700	11,000	9,400	7,700	5,400
1 1/2	59.9	18,500	3,700	1,850	7,400	6,400	5,200	3,700	6,700	3,300	13,500	11,500	9,400	6,700
1 5/8	74.6	22,500	4,500	2,300	9,000	7,800	6,400	4,500	8,100	4,100	16,000	14,000	11,500	8,000
1 3/4	89.3	26,500	5,300	2,700	10,500	9,200	7,500	5,300	9,500	4,800	19,000	16,500	13,500	9,500
2	107.5	31,000	6,200	3,100	12,500	10,500	8,800	6,200	11,000	5,600	22,500	19,500	16,000	11,000
2 1/3	125.0	36,000	7,200	3,600	14,500	12,500	10,000	7,200	13,000	6,500	26,000	22,500	18,500	13,000
2 1/4	146.0	41,000	8,200	4,100	16,500	14,000	11,500	8,200	15,000	7,400	29,500	25,500	21,000	15,000
2 1/2	166.7	46,500	9,300	4,700	18,500	16,000	13,000	9,300	16,500	8,400	33,500	29,000	23,500	16,500
2 5/8	190.8	52,000	10,500	5,200	21,000	18,000	14,500	10,500	18,500	9,500	37,500	32,500	26,500	18,500

Table H-16
NYLON ROPE SLINGS

ROPE DIA- METER	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 9)											
			EYE AND EYE SLING								ENDLESS SLING			
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
0 deg	30 deg	45 deg			60 deg	0 deg	30 deg	45 deg			60 deg			
1/2	6.5	6,080	700	350	1,400	1,200	950	700	1,200	600	2,400	2,100	1,700	1,200
9/16	8.3	7,600	850	400	1,700	1,500	1,200	850	1,500	750	3,000	2,600	2,200	1,500
5/8	10.5	9,880	1,100	550	2,200	1,900	1,600	1,100	2,000	1,000	4,000	3,400	2,800	2,000
3/4	14.5	13,490	1,500	750	3,000	2,600	2,100	1,500	2,700	1,400	5,400	4,700	3,800	2,700
13/16	17.0	16,150	1,800	900	3,600	3,100	2,600	1,800	3,200	1,600	6,400	5,600	4,600	3,200
7/8	20.0	19,000	2,100	1,100	4,200	3,700	3,000	2,100	3,800	1,900	7,600	6,600	5,400	3,800
1	26.0	23,750	2,600	1,300	5,300	4,600	3,700	2,600	4,800	2,400	9,500	8,200	6,700	4,800
1 1/16	29.0	27,360	3,000	1,500	6,100	5,300	4,300	3,000	5,500	2,700	11,000	9,500	7,700	5,500
1 1/8	34.0	31,350	3,500	1,700	7,000	6,000	5,000	3,500	6,300	3,100	12,500	11,000	8,900	6,300
1 1/4	40.0	35,625	4,000	2,000	7,900	6,900	5,600	4,000	7,100	3,600	14,500	12,500	10,000	7,100
1 5/16	45.0	40,850	4,500	2,300	9,100	7,900	6,400	4,500	8,200	4,100	16,500	14,000	12,000	8,200
1 1/2	55.0	50,350	5,600	2,800	11,000	9,700	7,900	5,600	10,000	5,000	20,000	17,500	14,000	10,000
1 5/8	68.0	61,750	6,900	3,400	13,500	12,000	9,700	6,900	12,500	6,200	24,500	21,500	17,500	12,500
1 3/4	83.0	74,100	8,200	4,100	16,500	14,500	11,500	8,200	15,000	7,400	29,500	27,500	21,000	15,000
2	95.0	87,400	9,700	4,900	19,500	17,000	13,500	9,700	17,500	8,700	35,000	30,500	24,500	17,500
2 1/8	109.0	100,700	11,000	5,600	22,500	19,500	16,000	11,000	20,000	10,000	40,500	35,000	28,500	20,000
2 1/4	129.0	118,750	13,000	6,600	26,500	23,000	18,500	13,000	24,000	12,000	47,500	41,000	33,500	24,000
2 1/2	149.0	138,000	15,000	7,400	29,500	25,500	21,000	15,000	26,500	13,500	53,000	46,000	37,500	26,500
2 5/8	168.0	153,900	17,100	8,600	34,000	29,500	24,000	17,000	31,000	15,500	61,500	53,500	43,500	31,000

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Table H-17
POLYESTER ROPE SLINGS

ROPE DIA- METER	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 9)											
			EYE AND EYE SLING						ENDLESS SLING					
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
					0 deg	30 deg	45 deg	60 deg			0 deg	30 deg	45 deg	60 deg
Nominal In Inches														
1/2	8.0	6,080	700	350	1,400	1,200	950	700	1,200	600	2,400	2,100	1,700	1,200
9/16	10.2	7,600	850	400	1,700	1,500	1,200	850	1,500	750	3,000	2,600	2,200	1,500
5/8	13.0	9,500	1,100	550	2,100	1,800	1,500	1,100	1,900	950	3,800	3,300	2,700	1,900
3/4	17.5	11,875	1,300	650	2,600	2,300	1,900	1,300	2,400	1,200	4,800	4,100	3,400	2,400
13/16	21.0	14,725	1,600	800	3,300	2,800	2,300	1,600	2,900	1,500	5,900	5,100	4,200	2,900
7/8	25.0	17,100	1,900	950	3,800	3,300	2,700	1,900	3,400	1,700	6,800	5,900	4,800	3,400
1	30.5	20,900	2,300	1,200	4,600	4,000	3,300	2,300	4,200	2,100	8,400	7,200	5,900	4,200
1 1/16	34.5	24,225	2,700	1,300	5,400	4,700	3,800	2,700	4,800	2,400	9,700	8,400	6,900	4,800
1 1/8	40.0	28,025	3,100	1,600	6,200	5,400	4,400	3,100	5,600	2,800	11,000	9,700	7,900	5,600
1 1/4	46.3	31,540	3,500	1,800	7,000	6,100	5,000	3,500	6,300	3,200	12,500	11,000	8,900	6,300
1 5/16	52.5	35,625	4,000	2,000	7,900	6,900	5,600	4,000	7,100	3,600	14,500	12,500	10,000	7,100
1 1/2	66.8	44,460	4,900	2,500	9,900	8,600	7,000	4,900	8,900	4,400	18,000	15,500	12,500	8,900
1 5/8	82.0	54,150	6,000	3,000	12,000	10,400	8,500	6,000	11,000	5,400	21,500	19,000	15,500	11,000
1 3/4	98.0	64,410	7,200	3,600	14,500	12,500	10,000	7,200	13,000	6,400	26,000	22,500	18,000	13,000
2	118.0	76,000	8,400	4,200	17,000	14,500	12,000	8,400	15,000	7,600	30,500	26,500	21,500	15,000
2 1/8	135.0	87,400	9,700	4,900	19,500	17,000	13,500	9,700	17,500	8,700	35,000	30,500	24,500	17,500
2 1/4	157.0	101,650	11,500	5,700	22,500	19,500	16,000	11,500	20,500	10,000	40,500	35,000	29,000	20,500
2 1/2	181.0	115,900	13,000	6,400	26,000	22,500	18,000	13,000	23,000	11,500	46,500	40,000	33,000	23,000
2 5/8	205.0	130,150	14,500	7,200	29,000	25,000	20,500	14,500	26,000	13,000	52,000	45,000	37,000	26,000

Table H-18
POLYPROPYLENE ROPE SLINGS

ROPE DIA- METER	Nominal Weight Per 100 ft In Pounds	Minimum Breaking Strength In Pounds	RATED CAPACITY IN POUNDS (Safety Factor = 6)											
			EYE AND EYE SLING								ENDLESS SLING			
			VERTICAL HITCH	CHOKER HITCH	BASKET HITCH				VERTICAL HITCH	CHOKER HITCH	BASKET HITCH			
					Angle of Rope to Horizontal						Angle of Rope to Horizontal			
					90 deg	60 deg	45 deg	30 deg			90 deg	60 deg	45 deg	30 deg
					Angle of Rope to Vertical						Angle of Rope to Vertical			
0 deg	30 deg	45 deg	60 deg	0 deg	30 deg	45 deg	60 deg							
1/2	4.7	3,990	650	350	1,300	1,200	950	650	1,200	600	2,400	2,100	1,700	1,200
9/16	6.1	4,845	800	400	1,600	1,400	1,100	800	1,500	750	2,900	2,500	2,100	1,500
5/8	7.5	5,890	1,000	500	2,000	1,700	1,400	1,000	1,800	900	3,500	3,100	2,500	1,800
3/4	10.7	8,075	1,300	700	2,700	2,300	1,900	1,300	2,400	1,200	4,900	4,200	3,400	2,400
13/16	12.7	9,405	1,600	800	3,100	2,700	2,200	1,600	2,800	1,400	5,600	4,900	4,000	2,800
7/8	15.0	10,925	1,800	900	3,600	3,200	2,600	1,800	3,300	1,600	6,600	5,700	4,600	3,300
1	18.0	13,300	2,200	1,100	4,400	3,800	3,100	2,200	4,000	2,000	8,000	6,900	5,600	4,000
1 1/16	20.4	15,200	2,500	1,300	5,100	4,400	3,600	2,500	4,600	2,300	9,100	7,900	6,500	4,600
1 1/8	23.7	17,385	2,900	1,500	5,800	5,000	4,100	2,900	5,200	2,600	10,500	9,000	7,400	5,200
1 1/4	27.0	19,950	3,300	1,700	6,700	5,800	4,700	3,300	6,000	3,000	12,000	10,500	8,500	6,000
1 5/16	30.5	22,325	3,700	1,900	7,400	6,400	5,300	3,700	6,700	3,400	13,500	11,500	9,500	6,700
1 1/2	38.5	28,215	4,700	2,400	9,400	8,100	6,700	4,700	8,500	4,200	17,000	14,500	12,000	8,500
1 5/8	47.5	34,200	5,700	2,900	11,500	9,900	8,100	5,700	10,500	5,100	20,500	18,000	14,500	10,500
1 3/4	57.0	40,850	6,800	3,400	13,500	12,000	9,600	6,800	12,500	6,100	24,500	21,000	17,500	12,500
2	69.0	49,400	8,200	4,100	16,500	14,500	11,500	8,200	15,000	7,400	29,500	25,500	21,000	15,000
2 1/8	80.0	57,950	9,700	4,800	19,500	16,500	13,500	9,700	17,500	8,700	35,000	30,100	24,500	17,500
2 1/4	92.0	65,550	11,000	5,500	22,000	19,000	15,500	11,000	19,500	9,900	39,500	34,000	28,000	19,500
2 1/2	107.0	76,000	12,500	6,300	25,500	22,000	18,000	12,500	23,000	11,500	45,500	39,500	32,500	23,000
2 5/8	120.0	85,500	14,500	7,100	28,500	24,500	20,000	14,500	25,500	13,000	51,500	44,500	36,500	25,500

TABLE H-19—SAFE WORKING LOADS FOR SHACKLES
(In tons of 2000 pounds)

Material size (inches)	Pin diameter (inches)	Safe working load
1/4	5/8	1.4
3/8	3/4	2.2
1/2	1	3.2
5/8	1 1/8	4.3
3/4	1 1/4	5.6
1	1 1/2	6.7
1 1/4	1 3/4	8.2
1 1/2	2	10.0
1 3/4	2 1/8	11.9
2	2 1/4	16.2
2 1/4	2 3/4	21.2

TABLE H-20—NUMBER AND SPACING OF U-BOLT WIRE ROPE CLIPS

Improved plow steel, rope diameter inches	Number of clips		Minimum spacing (inches)
	Drop forged	Other material	
1/4	3	4	3
3/8	3	4	3 1/2
1/2	4	5	4 1/4
5/8	4	5	5 1/4
3/4	5	6	6
1	6	6	6 1/2
1 1/4	6	7	7 1/4
1 1/2	7	7	8 1/4
1 3/4	7	8	9

Subpart I—Tools—Hand and Power

§ 1926.300 General requirements.

(a) *Condition of tools.* All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition.

(b) *Guarding.* (1) When power operated tools are designed to accommodate guards, they shall be equipped with such guards when in use.

(2) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding shall meet the requirements as set forth in American National Standards Institute, B15.1-1953 (R1958), Safety Code for Mechanical Power-Transmission Apparatus.

(c) *Personal protective equipment.* Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases shall be provided with the particular personal protective equipment necessary to protect them from the hazard. All personal protective equipment shall meet the requirements and be maintained according to Subparts D and E of this part.

(d) *Switches.* (1) All hand-held powered platen sanders, grinders with wheels 2-inch diameter or less, routers, planers, laminate trimmers, nibblers, shears, scroll saws, and jigsaws with blade shanks one-fourth of an inch wide or less may be equipped with only a positive "on-off" control.

(2) All hand-held powered drills, tappers, fastener drivers, horizontal, vertical, and angle grinders with wheels greater than 2 inches in diameter, disc sanders, belt sanders, reciprocating saws,

saber saws, and other similar operating powered tools shall be equipped with a momentary contact "on-off" control and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.

(3) All other hand-held powered tools, such as circular saws, chain saws, and percussion tools without positive accessory holding means, shall be equipped with a constant pressure switch that will shut off the power when the pressure is released.

(4) The requirements of this paragraph shall become effective on July 15, 1972.

(5) Exception: This paragraph does not apply to concrete vibrators, concrete breakers, powered tampers, jack hammers, rock drills, and similar hand operated power tools.

§ 1926.301 Hand tools.

(a) Employers shall not issue or permit the use of unsafe hand tools.

(b) Wrenches, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs.

(c) Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.

(d) The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

§ 1926.302 Power-operated hand tools.

(a) *Electric power-operated tools.* (1) Electric power operated tools shall either be of the approved double-insulated type or grounded in accordance with Subpart K of this part.

(2) The use of electric cords for hoisting or lowering tools shall not be permitted.

(b) *Pneumatic power tools.* (1) Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

(2) Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

(3) All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 p.s.i. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

(4) Compressed air shall not be used for cleaning purposes except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment which meets the requirements of Subpart E of this part. The 30 p.s.i. requirement does not apply for concrete form, mill scale and similar cleaning purposes.

(5) The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.

(6) The use of hoses for hoisting or lowering tools shall not be permitted.

(7) All hoses exceeding 1/2-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

(8) Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) shall be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.

(9) In lieu of the above, a diffuser nut which will prevent high pressure, high velocity release, while the nozzle tip is removed, plus a nozzle tip guard which will prevent the tip from coming into contact with the operator, or other equivalent protection, shall be provided.

(c) *Fuel powered tools.* (1) All fuel powered tools shall be stopped while being refueled, serviced, or maintained, and fuel shall be transported, handled, and stored in accordance with Subpart F of this part.

(2) When fuel powered tools are used in enclosed spaces, the applicable requirements for concentrations of toxic gases and use of personal protective equipment, as outlined in Subparts D and E of this part, shall apply.

(d) *Hydraulic power tools.* (1) The fluid used in hydraulic powered tools shall be fire-resistant fluids approved under Schedule 30 of the U.S. Bureau of Mines, Department of the Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed.

(2) The manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded.

(e) *Powder-actuated tools.* (1) Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

(2) The tool shall be tested each day before loading to see that safety devices are in proper working condition. The method of testing shall be in accordance with the manufacturer's recommended procedure.

(3) Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.

(4) Personal protective equipment shall be in accordance with Subpart E of this part.

(5) Tools shall not be loaded until just prior to the intended firing time. Neither loaded nor empty tools are to be pointed at any employees. Hands shall be kept clear of the open barrel end.

(6) Loaded tools shall not be left unattended.

(7) Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.

(8) Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that

will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.

(9) No fastener shall be driven into a spalled area caused by an unsatisfactory fastening.

(10) Tools shall not be used in an explosive or flammable atmosphere.

(11) All tools shall be used with the correct shield, guard, or attachment recommended by the manufacturer.

(12) Powder-actuated tools used by employees shall meet all other applicable requirements of American National Standards Institute, A10.3-1970, Safety Requirements for Explosive-Actuated Fastening Tools.

§ 1926.303 Abrasive wheels and tools.

(a) *Power.* All grinding machines shall be supplied with sufficient power to maintain the spindle speed at safe levels under all conditions of normal operation.

(b) *Guarding.* Grinding machines shall be equipped with safety guards in conformance with the requirements of American National Standards Institute, B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels, and paragraph (d) of this section.

(c) *Use of abrasive wheels.* (1) Floor stand and bench mounted abrasive wheels, used for external grinding, shall be provided with safety guards (protection hoods). The maximum angular exposure of the grinding wheel periphery and sides shall be not more than 90°, except that when work requires contact with the wheel below the horizontal plane of the spindle, the angular exposure shall not exceed 125°. In either case, the exposure shall begin not more than 65° above the horizontal plane of the spindle. Safety guards shall be strong enough to withstand the effect of a bursting wheel.

(2) Floor and bench-mounted grinders shall be provided with work rests which are rigidly supported and readily adjustable. Such work rests shall be kept at a distance not to exceed one-eighth inch from the surface of the wheel.

(3) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the American National Standards Institute, B7.1-1970 Safety Code for the Use, Care, and Protection of Abrasive Wheels. All other portable abrasive wheels used for external grinding, shall be provided with safety guards (protection hoods) meeting the requirements of subparagraph (5) of this paragraph, except as follows:

(i) When the work location makes it impossible, a wheel equipped with safety flanges, as described in paragraph (c) (6) of this section, shall be used;

(ii) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used.

(4) Portable abrasive wheels used for internal grinding shall be provided with safety flanges (protection flanges) meeting the requirements of subparagraph (6) of this paragraph, except as follows:

(i) When wheels 2 inches or less in diameter which are securely mounted on the end of a steel mandrel are used;

(ii) If the wheel is entirely within the work being ground while in use.

(5) When safety guards are required, they shall be so mounted as to maintain proper alignment with the wheel, and the guard and its fastenings shall be of sufficient strength to retain fragments of the wheel in case of accidental breakage. The maximum angular exposure of the grinding wheel periphery and sides shall not exceed 180°.

(6) When safety flanges are required, they shall be used only with wheels designed to fit the flanges. Only safety flanges, of a type and design and properly assembled so as to ensure that the pieces of the wheel will be retained in case of accidental breakage, shall be used.

(7) All abrasive wheels shall be closely inspected and ring-tested before mounting to ensure that they are free from cracks or defects.

(8) Grinding wheels shall fit freely on the spindle and shall not be forced on. The spindle nut shall be tightened only enough to hold the wheel in place.

(9) All employees using abrasive wheels shall be protected by eye protection equipment in accordance with the requirements of Subpart E of this part, except when adequate eye protection is afforded by eye shields which are permanently attached to the bench or floor stand.

(d) *Other requirements.* All abrasive wheels and tools used by employees shall meet other applicable requirements of American National Standards Institute, B7.1-1970, Safety Code for the Use, Care and Protection of Abrasive Wheels.

§ 1926.304 Woodworking tools.

(a) *Disconnect switches.* All fixed power driven woodworking tools shall be provided with a disconnect switch that can either be locked or tagged in the off position.

(b) *Speeds.* The operating speed shall be etched or otherwise permanently marked on all circular saws over 20 inches in diameter or operating at over 10,000 peripheral feet per minute. Any saw so marked shall not be operated at a speed other than that marked on the blade. When a marked saw is retensioned for a different speed, the marking shall be corrected to show the new speed.

(c) *Self-feed.* Automatic feeding devices shall be installed on machines whenever the nature of the work will permit. Feeder attachments shall have the feed rolls or other moving parts covered or guarded so as to protect the operator from hazardous points.

(d) *Guarding.* All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to the covering position.

(e) *Personal protective equipment.* All personal protective equipment provided for use shall conform to Subpart E of this part.

(f) *Other requirements.* All woodworking tools and machinery shall meet other applicable requirements of American National Standards Institute, 01.1-1961, Safety Code for Woodworking Machinery.

§ 1926.305 Jacks—lever and ratchet, screw, and hydraulic.

(a) *General requirements.* (1) The manufacturer's rated capacity shall be legibly marked on all jacks and shall not be exceeded.

(2) All jacks shall have a positive stop to prevent overtravel.

(b) *Lift slab construction.* (1) Hydraulic jacks used in lift slab construction shall have a safety device which will cause the jacks to support the load in any position in the event the jack malfunctions.

(2) If lift slabs are automatically controlled, a device shall be installed which will stop the operation when the ½-inch leveling tolerance is exceeded.

(c) *Blocking.* When it is necessary to provide a firm foundation, the base of the jack shall be blocked or cribbed. Where there is a possibility of slippage of the metal cap of the jack, a wood block shall be placed between the cap and the load.

Subpart J—Welding and Cutting

§ 1926.350 Gas welding and cutting.

(a) *Transporting, moving, and storing compressed gas cylinders.* (1) Valve protection caps shall be in place and secured.

(2) When cylinders are hoisted, they shall be secured on a cradle, slingboard, or pallet. They shall not be hoisted or transported by means of magnets or choker slings.

(3) Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck, or permitted to strike each other violently.

(4) When cylinders are transported by powered vehicles, they shall be secured in a vertical position.

(5) Valve protection caps shall not be used for lifting cylinders from one vertical position to another. Bars shall not be used under valves or valve protection caps to pry cylinders loose when frozen. Warm, not boiling, water shall be used to thaw cylinders loose.

(6) Unless cylinders are firmly secured on a special carrier intended for this purpose, regulators shall be removed and valve protection caps put in place before cylinders are moved.

(7) A suitable cylinder truck, chain, or other steadying device shall be used to keep cylinders from being knocked over while in use.

(8) When work is finished, when cylinders are empty, or when cylinders are moved at any time, the cylinder valve shall be closed.

(9) Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short pe-

riods of time while cylinders are actually being hoisted or carried.

(b) *Placing cylinders.* (1) Cylinders shall be kept far enough away from the actual welding or cutting operation so that sparks, hot slag, or flame will not reach them. When this is impractical, fire resistant shields shall be provided.

(2) Cylinders shall be placed where they cannot become part of an electrical circuit. Electrodes shall not be struck against a cylinder to strike an arc.

(3) Fuel gas cylinders shall be placed with valve end up whenever they are in use. They shall not be placed in a location where they would be subject to open flame, hot metal, or other sources of artificial heat.

(4) Cylinders containing oxygen or acetylene or other fuel gas shall not be taken into confined spaces.

(c) *Treatment of cylinders.* (1) Cylinders, whether full or empty, shall not be used as rollers or supports.

(2) No person other than the gas supplier shall attempt to mix gases in a cylinder. No one except the owner of the cylinder or person authorized by him, shall refill a cylinder. No one shall use a cylinder's contents for purposes other than those intended by the supplier. All cylinders used shall meet the Department of Transportation requirements published in 49 CFR Part 178, Subpart C, Specification for Cylinders.

(3) No damaged or defective cylinder shall be used.

(d) *Use of fuel gas.* The employer shall thoroughly instruct employees in the safe use of fuel gas, as follows:

(1) Before a regulator to a cylinder valve is connected, the valve shall be opened slightly and closed immediately. (This action is generally termed "cracking" and is intended to clear the valve of dust or dirt that might otherwise enter the regulator.) The person cracking the valve shall stand to one side of the outlet, not in front of it. The valve of a fuel gas cylinder shall not be cracked where the gas would reach welding work, sparks, flame, or other possible sources of ignition.

(2) The cylinder valve shall always be opened slowly to prevent damage to the regulator. For quick closing, valves on fuel gas cylinders shall not be opened more than 1½ turns. When a special wrench is required, it shall be left in position on the stem of the valve while the cylinder is in use so that the fuel gas flow can be shut off quickly in case of an emergency. In the case of manifolded or coupled cylinders, at least one such wrench shall always be available for immediate use. Nothing shall be placed on top of a fuel gas cylinder, when in use, which may damage the safety device or interfere with the quick closing of the valve.

(3) Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.

(4) Before a regulator is removed from a cylinder valve, the cylinder valve

shall always be closed and the gas released from the regulator.

(5) If, when the valve on a fuel gas cylinder is opened, there is found to be a leak around the valve stem, the valve shall be closed and the gland nut tightened. If this action does not stop the leak, the use of the cylinder shall be discontinued, and it shall be properly tagged and removed from the work area. In the event that fuel gas should leak from the cylinder valve, rather than from the valve stem, and the gas cannot be shut off, the cylinder shall be properly tagged and removed from the work area. If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from the work area.

(6) If a leak should develop at a fuse plug or other safety device, the cylinder shall be removed from the work area.

(e) *Fuel gas and oxygen manifolds.*

(1) Fuel gas and oxygen manifolds shall bear the name of the substance they contain in letters at least 1-inch high which shall be either painted on the manifold or on a sign permanently attached to it.

(2) Fuel gas and oxygen manifolds shall be placed in safe, well ventilated, and accessible locations. They shall not be located within enclosed spaces.

(3) Manifold hose connections, including both ends of the supply hose that lead to the manifold, shall be such that the hose cannot be interchanged between fuel gas and oxygen manifolds and supply header connections. Adapters shall not be used to permit the interchange of hose. Hose connections shall be kept free of grease and oil.

(4) When not in use, manifold and header hose connections shall be capped.

(5) Nothing shall be placed on top of a manifold, when in use, which will damage the manifold or interfere with the quick closing of the valves.

(f) *Hose.* (1) Fuel gas hose and oxygen hose shall be easily distinguishable from each other. The contrast may be made by different colors or by surface characteristics readily distinguishable by the sense of touch. Oxygen and fuel gas hoses shall not be interchangeable. A single hose having more than one gas passage shall not be used.

(2) When parallel sections of oxygen and fuel gas hose are taped together, not more than 4 inches out of 12 inches shall be covered by tape.

(3) All hose in use, carrying acetylene, oxygen, natural or manufactured fuel gas, or any gas or substance which may ignite or enter into combustion, or be in any way harmful to employees, shall be inspected at the beginning of each working shift. Defective hose shall be removed from service.

(4) Hose which has been subject to flashback, or which shows evidence of severe wear or damage, shall be tested to twice the normal pressure to which it is subject, but in no case less than 300 p.s.i. Defective hose, or hose in doubtful condition, shall not be used.

(5) Hose couplings shall be of the type that cannot be unlocked or disconnected

by means of a straight pull without rotary motion.

(6) Boxes used for the storage of gas hose shall be ventilated.

(7) Hoses, cables, and other equipment shall be kept clear of passageways, ladders and stairs.

(g) *Torches.* (1) Clogged torch tip openings shall be cleaned with suitable cleaning wires, drills, or other devices designed for such purpose.

(2) Torches in use shall be inspected at the beginning of each working shift for leaking shutoff valves, hose couplings, and tip connections. Defective torches shall not be used.

(3) Torches shall be lighted by friction lighters or other approved devices, and not by matches or from hot work.

(h) *Regulators and gauges.* Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use.

(i) *Oil and grease hazards.* Oxygen cylinders and fittings shall be kept away from oil or grease. Cylinders, cylinder caps and valves, couplings, regulators, hose, and apparatus shall be kept free from oil or greasy substances and shall not be handled with oily hands or gloves. Oxygen shall not be directed at oily surfaces, greasy clothes, or within a fuel oil or other storage tank or vessel.

(j) *Additional rules.* For additional details not covered in this subpart, applicable technical portions of American National Standards Institute, Z49.1-1967, Safety in Welding and Cutting, shall apply.

§ 1926.351 Arc welding and cutting.

(a) *Manual electrode holders.* (1) Only manual electrode holders which are specifically designed for arc welding and cutting, and are of a capacity capable of safely handling the maximum rated current required by the electrodes, shall be used.

(2) Any current-carrying parts passing through the portion of the holder which the arc welder or cutter grips in his hand, and the outer surfaces of the jaws of the holder, shall be fully insulated against the maximum voltage encountered to ground.

(b) *Welding cables and connectors.* (1) All arc welding and cutting cables shall be of the completely insulated, flexible type, capable of handling the maximum current requirements of the work in progress, taking into account the duty cycle under which the arc welder or cutter is working.

(2) Only cable free from repair or splices for a minimum distance of 10 feet from the cable end to which the electrode holder is connected shall be used, except that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.

(3) When it becomes necessary to connect or splice lengths of cable one to another, substantial insulated connectors of a capacity at least equivalent to that of the cable shall be used. If connections are effected by means of cable lugs, they shall be securely fastened together to give good electrical contact, and the exposed

metal parts of the lugs shall be completely insulated.

(4) Cables in need of repair shall not be used. When a cable, other than the cable lead referred to in subparagraph (2) of this paragraph, becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation.

(c) *Ground returns and machine grounding.* (1) A ground return cable shall have a safe current carrying capacity equal to or exceeding the specified maximum output capacity of the arc welding or cutting unit which it services. When a single ground return cable services more than one unit, its safe current-carrying capacity shall equal or exceed the total specified maximum output capacities of all the units which it services.

(2) Pipelines containing gases or flammable liquids, or conduits containing electrical circuits, shall not be used as a ground return. For welding on natural gas pipelines, the technical portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standards for Gas Pipelines, shall apply.

(3) When a structure or pipeline is employed as a ground return circuit, it shall be determined that the required electrical contact exists at all joints. The generation of an arc, sparks, or heat at any point shall cause rejection of the structures as a ground circuit.

(4) When a structure or pipeline is continuously employed as a ground return circuit, all joints shall be bonded, and periodic inspections shall be conducted to ensure that no condition of electrolysis or fire hazard exists by virtue of such use.

(5) The frames of all arc welding and cutting machines shall be grounded either through a third wire in the cable containing the circuit conductor or through a separate wire which is grounded at the source of the current. Grounding circuits, other than by means of the structure, shall be checked to ensure that the circuit between the ground and the grounded power conductor has resistance low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(6) All ground connections shall be inspected to ensure that they are mechanically strong and electrically adequate for the required current.

(d) *Operating instructions.* Employers shall instruct employees in the safe means of arc welding and cutting as follows:

(1) When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects.

(2) Hot electrode holders shall not be dipped in water; to do so may expose the arc welder or cutter to electric shock.

(3) When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time,

or when the arc welding or cutting machine is to be moved, the power supply switch to the equipment shall be opened.

(4) Any faulty or defective equipment shall be reported to the supervisor.

(5) Other requirements, as outlined in Article 630, National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of 1968), Electric Welders, shall be used when applicable.

(e) *Shielding.* Whenever practicable, all arc welding and cutting operations shall be shielded by noncombustible or flameproof screens which will protect employees and other persons working in the vicinity from the direct rays of the arc.

§ 1926.352 Fire prevention.

(a) When practical, objects to be welded, cut, or heated shall be moved to a designated safe location or, if the objects to be welded, cut, or heated cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place, or otherwise protected.

(b) If the object to be welded, cut, or heated cannot be moved and if all the fire hazards cannot be removed, positive means shall be taken to confine the heat, sparks, and slag, and to protect the immovable fire hazards from them.

(c) No welding, cutting, or heating shall be done where the application of flammable paints, or the presence of other flammable compounds, or heavy dust concentrations creates a hazard.

(d) Suitable fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state of readiness for instant use.

(e) When the welding, cutting, or heating operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while the actual welding, cutting, or heating operation is being performed, and for a sufficient period of time after completion of the work to ensure that no possibility of fire exists. Such personnel shall be instructed as to the specific anticipated fire hazards and how the firefighting equipment provided is to be used.

(f) When welding, cutting, or heating is performed on walls, floors, and ceilings, since direct penetration of sparks or heat transfer may introduce a fire hazard to an adjacent area, the same precautions shall be taken on the opposite side as are taken on the side on which the welding is being performed.

(g) For the elimination of possible fire in enclosed spaces as a result of gas escaping through leaking or improperly closed torch valves, the gas supply to the torch shall be positively shut off at some point outside the enclosed space whenever the torch is not to be used or whenever the torch is left unattended for a substantial period of time, such as during the lunch period. Overnight and at the change of shifts, the torch and hose shall be removed from the confined space. Open end fuel gas and oxygen hoses shall be immediately removed from enclosed spaces when they are disconnected from the torch or other gas-consuming device.

(h) Except when the contents are being removed or transferred, drums, pails, and other containers, which contain or have contained flammable liquids, shall be kept closed. Empty containers shall be removed to a safe area apart from hot work operations or open flames.

(i) Drums, containers, or hollow structures which have contained toxic or flammable substances shall, before welding, cutting, or heating is undertaken on them, either be filled with water or thoroughly cleaned of such substances and ventilated and tested. For welding, cutting and heating on steel pipelines containing natural gas, the pertinent portions of regulations issued by the Department of Transportation, Office of Pipeline Safety, 49 CFR Part 192, Minimum Federal Safety Standards for Gas Pipelines, shall apply.

(j) Before heat is applied to a drum, container, or hollow structure, a vent or opening shall be provided for the release of any built-up pressure during the application of heat.

§ 1926.353 Ventilation and protection in welding, cutting, and heating.

(a) *Mechanical ventilation.* For purposes of this section, mechanical ventilation shall meet the following requirements:

(1) Mechanical ventilation shall consist of either general mechanical ventilation systems or local exhaust systems.

(2) General mechanical ventilation shall be of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits, as defined in Subpart D of this part.

(3) Local exhaust ventilation shall consist of freely movable hoods intended to be placed by the welder or burner as close as practicable to the work. This system shall be of sufficient capacity and so arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits as defined in Subpart D of this part.

(4) Contaminated air exhausted from a working space shall be discharged into the open air or otherwise clear of the source of intake air.

(5) All air replacing that withdrawn shall be clean and respirable.

(6) Oxygen shall not be used for ventilation purposes, comfort cooling, blowing dust from clothing, or for cleaning the work area.

(b) *Welding, cutting, and heating in confined spaces.* (1) Except as provided in paragraph (b)(2) of this section, and paragraph (c)(2) of this section, either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section shall be provided whenever welding, cutting, or heating is performed in a confined space.

(2) When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by air line respirators in accordance with the requirements of Subpart E of this part, and an employee on the outside of such a confined space

shall be assigned to maintain communication with those working within it and to aid them in an emergency.

(c) *Welding, cutting, or heating of metals of toxic significance.* (1) Welding, cutting, or heating in any enclosed spaces involving the metals specified in this subparagraph shall be performed with either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section:

(i) Zinc-bearing base or filler metals or metals coated with zinc-bearing materials;

(ii) Lead base metals;

(iii) Cadmium-bearing filler materials;

(iv) Chromium-bearing metals or metals coated with chromium-bearing materials.

(2) Welding, cutting, or heating in any enclosed spaces involving the metals specified in this subparagraph shall be performed with local exhaust ventilation in accordance with the requirements of paragraph (a) of this section, or employees shall be protected by air line respirators in accordance with the requirements of Subpart E of this part:

(i) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials;

(ii) Cadmium-bearing or cadmium-coated base metals;

(iii) Metals coated with mercury-bearing materials;

(iv) Beryllium-containing base or filler metals. Because of its high toxicity, work involving beryllium shall be done with both local exhaust ventilation and air line respirators.

(3) Employees performing such operations in the open air shall be protected by filter-type respirators in accordance with the requirements of Subpart E of this part, except that employees performing such operations on beryllium-containing base or filler metals shall be protected by air line respirators in accordance with the requirements of Subpart E of this part.

(4) Other employees exposed to the same atmosphere as the welders or burners shall be protected in the same manner as the welder or burner.

(d) *Inert-gas metal-arc welding.* (1) Since the inert-gas metal-arc welding process involves the production of ultraviolet radiation of intensities of 5 to 30 times that produced during shielded metal-arc welding, the decomposition of chlorinated solvents by ultraviolet rays, and the liberation of toxic fumes and gases, employees shall not be permitted to engage in, or be exposed to the process until the following special precautions have been taken:

(i) The use of chlorinated solvents shall be kept at least 200 feet, unless shielded, from the exposed arc, and surfaces prepared with chlorinated solvents shall be thoroughly dry before welding is permitted on such surfaces.

(ii) Employees in the area not protected from the arc by screening shall be protected by filter lenses meeting the requirements of Subpart E of this part. When two or more welders are exposed

to each other's arc, filter lens goggles of a suitable type, meeting the requirements of Subpart E of this part, shall be worn under welding helmets. Hand shields to protect the welder against flashes and radiant energy shall be used when either the helmet is lifted or the shield is removed.

(iii) Welders and other employees who are exposed to radiation shall be suitably protected so that the skin is covered completely to prevent burns and other damage by ultraviolet rays. Welding helmets and hand shields shall be free of leaks and openings, and free of highly reflective surfaces.

(iv) When inert-gas metal-arc welding is being performed on stainless steel, the requirements of paragraph (c) (2) of this section shall be met to protect against dangerous concentrations of nitrogen dioxide.

(e) *General welding, cutting, and heating.* (1) Welding, cutting, and heating, not involving conditions or materials described in paragraph (b), (c), or (d) of this section, may normally be done without mechanical ventilation or respiratory protective equipment, but where, because of unusual physical or atmospheric conditions, an unsafe accumulation of contaminants exists, suitable mechanical ventilation or respiratory protective equipment shall be provided.

(2) Employees performing any type of welding, cutting, or heating shall be protected by suitable eye protective equipment in accordance with the requirements of Subpart E of this part.

§ 1926.354 *Welding, cutting, and heating in way of preservative coatings.*

(a) Before welding, cutting, or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a competent person to determine its flammability. Preservative coatings shall be considered to be highly flammable when scrapings burn with extreme rapidity.

(b) Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.

(c) Protection against toxic preservative coatings: (1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application, or the employees shall be protected by air line respirators, meeting the requirements of Subpart E of this part.

(2) In the open air, employees shall be protected by a respirator, in accordance with requirements of Subpart E of this part.

(d) The preservative coatings shall be removed a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heating area may be used to limit the size of the area required to be cleaned.

Subpart K—Electrical

§ 1926.400 General requirements.

(a) All electrical work, installation, and wire capacities shall be in accordance with the pertinent provisions of the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), unless otherwise provided by regulations of this part.

(b) *Applicability.* These regulations apply only to electrical installations used on the jobsite, both temporary and permanent. For power distribution and transmission lines, see Subpart V of this part.

(c) *Protection of employees.* (1) No employer shall permit an employee to work in such proximity to any part of an electric power circuit that he may contact the same in the course of his work unless the employee is protected against electric shock by deenergizing the circuit and grounding it or by guarding it by effective insulation or other means. In work areas where the exact location of underground electric power lines is unknown, workmen using jack-hammers, bars, or other hand tools which may contact a line shall be provided with insulated protective gloves.

(2) Before work is begun the employer shall ascertain by inquiry or direct observation, or by instruments, whether any part of an electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact therewith. The employer shall post and maintain proper warning signs where such a circuit exists. He shall advise his employees of the location of such lines, the hazards involved and the protective measures to be taken.

(d) *Passageways and open spaces.* Suitable barriers or other means shall be provided to ensure that workspace for electrical equipment will not be used as a passageway during periods when energized parts of electrical equipment are exposed.

(e) *Workspace around equipment.* Sufficient space shall be provided and maintained in the area of electrical equipment to permit ready and safe operation and maintenance of such equipment. When parts are exposed, the minimum clearance for the workspace shall be not less than 6½ feet high, nor less than a radius of 3 feet wide, and there shall be clearance sufficient to permit at least a 90° opening of all doors or hinged panels. All working clearances shall be maintained in accordance with Article 110-16, National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968).

(f) *Load ratings.* In existing installations no changes in circuit protection shall be made to increase the load in excess of the load rating of the circuit wiring, as specified in National Electric Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), Article 310.

(g) *Lockout and tagging of circuits.* (1) Equipment or circuits that are deenergized shall be rendered inoperative

and have tags attached at all points where such equipment or circuits can be energized.

(2) Controls that are to be deactivated during the course of work on energized or deenergized equipment or circuits shall be tagged.

(3) Tags shall be placed to identify plainly the equipment or circuits being worked on.

(h) Notwithstanding any other provisions of this part, the effective date of the requirement in section 210-7 of the National Electrical Code, that all 15- and 20-ampere receptacle outlets on single-phase circuits for construction sites shall have approved ground-fault circuit protection for personnel, is postponed pending reconsideration of the requirement.

§ 1926.401 Grounding and bonding.

(a) *Portable and/or cord and plug-connected equipment.* (1) The noncurrent-carrying metal parts of portable and/or plug-connected equipment shall be grounded.

(2) Portable tools and appliances protected by an approved system of double insulation, or its equivalent, need not be grounded. Where such an approved system is employed, the equipment shall be distinctively marked.

(b) *Fixed equipment.* Exposed noncurrent-carrying metal parts of fixed electrical equipment, including motors, generators, frames and tracks of electrically operated cranes, electrically driven machinery, etc., shall be grounded.

(c) *Effective grounding.* The path from circuits, equipment, structures, and conduit or enclosures to ground shall be permanent and continuous; have ample carrying capacity to conduct safely the currents liable to be imposed on it; and have impedance sufficiently low to limit the potential above ground and to result in the operation of the overcurrent devices in the circuit.

(d) *Ground resistance.* Driven rod electrodes shall, where practicable, have a resistance to ground not to exceed 25 ohms. Where the resistance is not as low as 25 ohms, two or more electrodes connected in parallel shall be used.

(e) *Testing of grounds.* Grounding circuits shall be checked to ensure that the circuit between the ground and the grounded power conductor has a resistance which is low enough to permit sufficient current to flow to cause the fuse or circuit breaker to interrupt the current.

(f) *Extension cords.* Extension cords used with portable electric tools and appliances shall be of three-wire type.

(g) *Bonding.* (1) Conductors used for bonding and grounding stationary and moveable equipment shall be of ample size to carry the anticipated current.

(2) When attaching bonding and grounding clamps or clips, a secure and positive metal-to-metal contact shall be made. Such attachments shall be made before closures are opened and material movements are started and shall not be broken until after material movements are stopped and closures are made.

(h) *Temporary wiring.* All temporary

wiring shall be effectively grounded in accordance with the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968), Articles 305 and 310.

(i) *Construction site.* Precautions shall be taken to make any necessary open wiring inaccessible to unauthorized personnel.

(j) *Temporary lighting.* (1) Temporary lights shall be equipped with guards to prevent accidental contact with the bulb, except that guards are not required when the construction of the reflector is such that the bulb is deeply recessed.

(2) Temporary lights shall be equipped with heavy duty electric cords with connections and insulation maintained in safe condition. Temporary lights shall not be suspended by their electric cords unless cords and lights are designed for this means of suspension. Splices shall have insulation equal to that of the cable.

(3) Working spaces, walkways, and similar locations shall be kept clear of cords so as not to create a hazard to employees.

(4) Portable electric lighting used in moist and/or other hazardous locations, as for example, drums, tanks, and vessels shall be operated at a maximum of 12 volts.

§ 1926.402 Equipment installation and maintenance.

(a) *Flexible cable and cords.* (1) Receptacles for attachment plugs shall be of approved, concealed contact type with a contact for extending ground continuity and shall be so designed and constructed that the plug may be pulled out without leaving any live parts exposed to accidental contact.

(2) Where different voltages, frequencies, or types of current (a.c. or d.c.) are to be supplied by portable cords, receptacles shall be of such design that attachment plugs used on such circuits are not interchangeable.

(3) Attachment plugs or other connectors supplying equipment at more than 300 volts shall be of the skirted type or otherwise so designed that arcs will be confined.

(4) Attachment plugs for use in work areas shall be so constructed that they will endure rough use and be equipped with a suitable cord grip to prevent strain on the terminal screws.

(5) Flexible cord shall be used only in continuous lengths without splice, except suitable molded or vulcanized splices may be used where properly made, and the insulation shall be equal to the cable being spliced and wire connections soldered.

(6) Trailing cables shall be protected from damage.

(7) Splices in trailing cable shall be mechanically strong components and insulated to retain the mechanical and dielectric strength of the original cable.

(8) Cable passing through work areas shall be covered or elevated to protect it from damage which would create a hazard to employees.

(9) Handlamps of the portable type shall be of the molded composition or other type approved for the purpose. Brass-shell, paper-lined lampholders

shall not be used. Handlamps shall be equipped with a handle and a substantial guard over the bulb and attached to the lampholder or the handle.

(10) Worn or frayed electric cables shall not be used.

(11) Extension cords shall be protected against accidental damage as may be caused by traffic, sharp corners, or projections and pinching in doors or elsewhere.

(12) Extension cords shall not be fastened with staples, hung from nails, or suspended by wire.

(b) *Overcurrent protection.* (1) Overcurrent protection shall be provided by fuses or circuit breakers for each feeder and branch circuit, and shall be based on the current-carrying capacity of the conductors supplied and the power load being used.

(2) No overcurrent device shall be placed in any permanently grounded conductor, except where the overcurrent device simultaneously opens all conductors of the circuit or for motor running protection.

(3) When fuses are installed or removed with one or both terminals energized, special tools insulated for the voltage shall be used.

(c) *Switches, circuit breakers, and disconnecting means.* (1) Each disconnecting means for motors and appliances, and each service feeder or branch circuit at the point where it originates, shall be legibly marked to indicate its purpose unless located and arranged so the purpose is evident.

(2) Disconnecting means shall be located or shielded so that employees will not be injured.

(3) Boxes for disconnecting means shall be securely and rigidly fastened to the surface upon which they are mounted and fitted with covers.

(4) Boxes and disconnecting means installed in damp or wet locations shall be waterproof to the extent that water does not enter or accumulate.

(d) *Transformers.* (1) Energized transformers and other related electrically energized equipment over 150 volts to ground shall be protected so as to prevent accidental contact with any person. Protection shall be provided by individual integrated housing or by an enclosure, such as an electrical substation fence, which accommodates a group of such equipment. Metallic enclosures shall be grounded.

(2) Access to energized equipment covered by paragraph (d)(1) of this section shall be secured by lock or other fasteners requiring the use of tools to open them.

(3) Signs indicating danger and prohibiting unauthorized access shall be conspicuously displayed on the housing or other enclosure around the equipment.

(4) Transformers mounted on utility poles at a height of more than 12 feet from the ground are exempt from the requirements of this paragraph.

(e) *Welding and cutting equipment.* Welding and cutting equipment shall meet the requirements specified in Subparts F and J of this part.

§ 1926.403 Battery rooms and battery charging.

(a) *General requirements.* (1) Batteries of the nonseal type shall be located in enclosures with outside vents or in well ventilated rooms, so arranged as to prevent the escape of fumes, gases, or electrolyte spray into other areas.

(2) Ventilation shall be provided to ensure diffusion of the gases from the battery to prevent the accumulation of an explosive mixture.

(3) Racks and trays shall be substantial and treated to be resistant to the electrolyte.

(4) Floors shall be of acid resistant construction or be protected from acid accumulations.

(5) Face shields, aprons, and rubber gloves shall be provided for workmen handling acids or batteries.

(6) Facilities for quick drenching of the eyes and body shall be provided within 25 feet of the work area for emergency use.

(7) Facilities shall be provided for flushing and neutralizing spilled electrolyte, for fire protection, for protecting charging apparatus from damage by trucks, and for adequate ventilation for dispersal of fumes from gassing batteries.

(b) *Charging.* (1) Battery charging installations shall be located in areas designated for that purpose.

(2) When charging batteries, the vent caps shall be kept in place to avoid electrolyte spray. Care shall be taken to assure that vent caps are functioning.

§ 1926.404 Hazardous locations.

(a) *General:* For the purpose of this section, hazardous locations are defined as follows:

(1) *Class I Locations—Class I Locations* are those in which flammable gases or vapors are or may be present in quantities sufficient to produce explosive or ignitable mixtures.

(2) *Class II Locations—Class II Locations* are those which are hazardous because of the presence of combustible dust.

(3) *Class III Locations—Class III Locations* are those which are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in air in quantities sufficient to produce ignitable mixtures.

(4) See the National Electrical Code, NFPA 70-1971; ANSI C1-1971 (Rev. of C1-1968) for further definition of divisions 1 and 2 for each class.

(b) All components and utilization equipment used in a hazardous location shall be chosen from among those listed by a nationally recognized testing laboratory, such as Underwriters' Laboratories, Inc., or Factory Mutual Engineering Corp., except custom-made components and utilization equipment.

(c) Equipment approved for a specific hazardous location shall not be installed or intermixed with equipment approved for another specific hazardous location.

(d) Employer shall ensure that all wiring components and utilization equipment are maintained as vapor, dust, or

fiber tight as contemplated by their approvals. There shall be no loose or missing screws, gaskets, threaded connections, or other impairments to this tight condition.

§ 1926.405 Definitions applicable to this subpart.

(a) The definition of "approved" as set forth in § 1910.308(d) of this chapter shall apply.

(b) "Bonding jumper"—a conductor to assure the required electrical conductivity between metal parts required to be electrically connected.

(c) "Branch circuits"—that portion of a wiring system extending beyond the final overcurrent device protecting the circuit. (A device not approved for branch circuit protection, such as thermal cutoff or motor overload protective device, is not considered as the overcurrent device protecting the circuit.)

(d) "Circuit breaker"—a device designed to open and close a circuit by manual means, and to open the circuit automatically on a predetermined overload of current, without injury to itself when properly applied within its rating.

(e) "Exposed" (as applied to live parts)—means that a live part can be inadvertently touched or approached nearer than a safe distance by a person. This term applies to parts not suitably guarded, isolated, or insulated.

(f) "Ground"—a conducting connection, whether intentional or accidental, between an electrical circuit or equipment and earth, or to some conducting body which serves in place of the earth.

(g) "Grounded"—connected to earth or to some conducting body which serves in place of the earth.

(h) "Hazard" is considered to include casualty, fire, and shock when applicable.

(i) "Isolated" means not readily accessible to person unless special means of access are used.

(j) "Raceway"—any channel for loosely holding wires or cables in interior work which is designed expressly and used solely for this purpose. Raceways may be of metal, wood, or insulating material, and the term includes wood and metal moldings consisting of a backing and capping, and also metal ducts into which wires are to be pulled.

(k) "Shock hazard"—considered to exist at an accessible part in a circuit between the part and ground, or other accessible parts if the potential is more than 42.4 volts peak and the current through a 1,500-ohm load is more than 5 milliamperes.

(l) "Weatherproof"—so constructed or protected that exposure to the weather shall not interfere with successful operation.

Subpart I—Ladders and Scaffolding
§ 1926.450 Ladders.

(a) *General requirements.* (1) Except where either permanent or temporary stairways or suitable ramps or runways are provided, ladders described in this

subpart shall be used to give safe access to all elevations.

(2) The use of ladders with broken or missing rungs or steps, broken or split side rails, or other faulty or defective construction is prohibited. When ladders with such defects are discovered, they shall be immediately withdrawn from service. Inspection of metal ladders shall include checking for corrosion of interiors of open end hollow rungs.

(3) Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of the American National Standards Institute, A 14.1-1968, Safety Code for Portable Wood Ladders.

(4) Portable metal ladders shall be of strength equivalent to that of wood ladders. Manufactured portable metal ladders provided by the employer shall be in accordance with the provisions of the American National Standards Institute, A 14.2-1956, Safety Code for Portable Metal Ladders.

(5) Fixed ladders shall be in accordance with the provisions of the American National Standards Institute, A 14.3-1956, Safety Code for Fixed Ladders.

(6) Portable ladder feet shall be placed on a substantial base, and the area around the top and bottom of the ladder shall be kept clear.

(7) Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder (the length along the ladder between the foot and the top support). Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.

(8) Ladders shall not be placed in passageways, doorways, driveways, or any location where they may be displaced by activities being conducted on any other work, unless protected by barricades or guards.

(9) The side rails shall extend not less than 36 inches above the landing. When this is not practical, grab rails, which provide a secure grip for an employee moving to or from the point of access, shall be installed.

(10) Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced.

(11) Portable metal ladders shall not be used for electrical work or where they may contact electrical conductors.

(b) *Job-made ladders.* (1) Job-made ladders shall be constructed for intended use. If a ladder is to provide the only means of access or exit from a working area for 25 or more employees, or simultaneous two-way traffic is expected, a double cleat ladder shall be installed.

(2) Double cleat ladders shall not exceed 24 feet in length.

(3) Single cleat ladders shall not exceed 30 feet in length between supports (base and top landing). If ladders are to connect different landings, or if the length required exceeds this maximum length, two or more separate ladders

shall be used, offset with a platform between each ladder. Guardrails and toeboards shall be erected on the exposed sides of the platforms. (See § 1926.451 (a) (5).)

(4) The width of single cleat ladders shall be at least 15 inches, but not more than 20 inches, between rails at the top.

(5) Side rails shall be parallel or flared top to bottom by not more than one-quarter of an inch for each 2 feet of length.

(6) Wood side rails of ladders having cleats shall be not less than 1½ inches thick and 3½ inches deep (2 inches by 4 inches nominal) when made of Group 2 or Group 3 woods (see Table L-1). Wood side rails of Group 4 woods (see Table L-1) may be used in the same cross-section of dimensions for cleat ladders up to 20 feet in length.

TABLE L-1

AVERAGE DENSITIES OF VARIOUS SPECIES OF WOOD FOR USE IN LADDERS

GROUP 1			
Species	Density (lbs./ft. ³)	Species	Density (lbs./ft. ³)
White ash	41	Hard maple	42
Beech	43	Red maple	36
Birch	44	Red oak	43
Rock elm	43	White oak	46
Hickory	50	Pecan	46
Locust	47	Persimmon	50
GROUP 2			
Douglas fir (coast region)	34	Southern yellow pine	37
Western larch	38		
GROUP 3			
Red alder	28	Gum	34
Oregon ash	38	West Coast hemlock	30
Pumpkin ash	27	lock	30
Alaska cedar	31	Magnolia	35
Port Orford cedar	30	Oregon maple	34
Cucumber	34	Norway pine	31
Cypress	32	Poplar	28
Sitka spruce	36	Redwood	26
Douglas fir (Rocky Mountain type)	30	Eastern spruce	28
Noble fir	27	Sitka spruce	26
		Sycamore	35
		Tamarack	37
		Tupelo	35
GROUP 4			
Aspen	27	Eastern hemlock	28
Basswood	25	Holly	39
Buckeye	25	Soft maple	33
Butternut	27	Lodgepole pine	29
Incense cedar	25	Idaho white pine	28
Western red cedar	23	Northern white pine	25
Black cottonwood	24	Ponderosa pine	28
White fir	26	Sugar pine	26
Hackberry	37		

(7) It is preferable that side rails be continuous. If splicing is necessary to attain the required length, however, the splice must develop the full strength of a continuous side rail of the same length.

(8) 2-inch by 4-inch lumber shall be used for side rails of single cleat ladders up to 16 feet long; 3-inch by 6-inch lumber shall be used for single cleat ladders from 16 to 30 feet in length.

(9) 2-inch by 4-inch lumber shall be used for side and middle rails of double cleat ladders up to 12 feet in length; 2-inch by 6-inch lumber for

double cleat ladders from 12 to 24 feet in length.

(10) Wood cleats shall have the following minimum dimensions when made of Group 1 woods (see Table L-1):

TABLE L-2

Length of cleat (inches)	Thickness (inches)	Width (inches)
Up to and including 20	¾	3
Over 20 and up to and including 30	¾	3¾

(11) Cleats may be made of species of any other group of wood (see Table L-1) provided equal or greater strength is maintained.

(12) Cleats shall be inset into the edges of the side rails one-half inch, or filler blocks shall be used on the rails between the cleats. The cleats shall be secured to each rail with three 10d common wire nails or other fasteners of equivalent strength. Cleats shall be uniformly spaced, 12 inches top-to-top.

§ 1926.451 Scaffolding.

(a) General requirements. (1) Scaffolds shall be erected in accordance with requirements of this section.

(2) The footing or anchorage for scaffolds shall be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, shall not be used to support scaffolds or planks.

(3) No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.

(4) Guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor, except needle beam scaffolds and floats (see paragraphs (p) and (w) of this section). Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction of less than 45 inches, shall have standard guardrails installed on all open sides and ends of the platform.

(5) Guardrails shall be 2 x 4 inches, or the equivalent, approximately 42 inches high, with a midrail, when required. Supports shall be at intervals not to exceed 8 feet. Toeboards shall be a minimum of 4 inches in height.

(6) Where persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard wire ½-inch mesh, or the equivalent.

(7) Scaffolds and their components shall be capable of supporting without failure at least 4 times the maximum intended load.

(8) Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause shall be immediately repaired or replaced.

(9) All load-carrying timber members of scaffold framing shall be a minimum of 1,500 fiber (Stress Grade) con-

struction grade lumber. All dimensions are nominal sizes as provided in the American Lumber Standards, except that where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.

(10) All planking shall be Scaffold Grades, or equivalent, as recognized by approved grading rules for the species of wood used. The maximum permissible spans for 2- x 10-inch or wider planks shall be as shown in the following:

TABLE L-3

MATERIAL

	Full thickness undressed lumber		Nominal thickness lumber ¹	
Working load (p.s.f.)	25	50	25	50
Permissible span (ft.)	10	8	8	6

¹ Nominal thickness lumber not recommended for heavy duty use.

(11) The maximum permissible span for 1½- x 9-inch or wider plank of full thickness shall be 4 feet with medium duty loading of 50 p.s.f.

(12) All planking of platforms shall be overlapped (minimum 12 inches), or secured from movement.

(13) An access ladder or equivalent safe access shall be provided.

(14) Scaffold planks shall extend over their end supports not less than 6 inches nor more than 12 inches.

(15) The poles, legs, or uprights of scaffolds shall be plumb, and securely and rigidly braced to prevent swaying and displacement.

(16) Overhead protection shall be provided for men on a scaffold exposed to overhead hazards.

(17) Slippery conditions on scaffolds shall be eliminated as soon as possible after they occur.

(18) No welding, burning, riveting, or open flame work shall be performed on any staging suspended by means of fiber or synthetic rope. Only treated or protected fiber or synthetic ropes shall be used for or near any work involving the use of corrosive substances or chemicals. Specific requirements for boatswain's chairs and float or ship scaffolds are contained in paragraphs (l) and (w) of this section.

(19) Wire, synthetic, or fiber rope used for scaffold suspension shall be capable of supporting at least 6 times the rated load.

(20) The use of shore or lean-to scaffolds is prohibited.

(21) Lumber sizes, when used in this subpart, refer to nominal sizes except where otherwise stated.

(b) Wood pole scaffolds. (1) Scaffold poles shall bear on a foundation of sufficient size and strength to spread the load from the pole over a sufficient area to prevent settlement. All poles shall be set plumb.

(2) Where wood poles are spliced, the ends shall be squared and the upper section shall rest squarely on the lower section. Wood splice plates shall be provided on at least two adjacent sides and shall be not less than 4 feet in length,

overlapping the abutted ends equally, and have the same width and not less than the cross-sectional area of the pole. Splice plates or other materials of equivalent strength may be used.

(3) Independent pole scaffolds shall be set as near to the wall of the building as practicable.

(4) All pole scaffolds shall be securely guyed or tied to the building or structure. Where the height or length exceeds 25 feet, the scaffold shall be secured at intervals not greater than 25 feet vertically and horizontally.

(5) Putlogs or bearers shall be set with their greater dimension vertical, long enough to project over the ledgers of the inner and outer rows of poles at least 3 inches for proper support.

(6) Every wooden putlog on single pole scaffolds shall be reinforced with a $\frac{3}{16}$ x 2-inch steel strip, or equivalent, secured to its lower edge throughout its entire length.

(7) Ledgers shall be long enough to extend over two pole spaces. Ledgers shall not be spliced between the poles. Ledgers shall be reinforced by bearing blocks securely nailed to the side of the pole to form a support for the ledger.

(8) Diagonal bracing shall be provided to prevent the poles from moving in a direction parallel with the wall of the building, or from buckling.

(9) Cross bracing shall be provided between the inner and outer sets of poles in independent pole scaffolds. The free ends of pole scaffolds shall be cross braced.

(10) Full diagonal face bracing shall be erected across the entire face of pole scaffolds in both directions. The braces shall be spliced at the poles. The inner row of poles on medium and heavy duty scaffolds shall be braced in a similar manner.

(11) Platform planks shall be laid with their edges close together so the platform will be tight with no spaces through which tools or fragments of material can fall.

(12) Where planking is lapped, each plank shall lap its end supports at least 12 inches. Where the ends of planks abut each other to form a flush floor, the butt joint shall be at the centerline of a pole. The abutted ends shall rest on separate bearers. Intermediate beams shall be provided where necessary to prevent dislodgment of planks due to deflection, and the ends shall be secured to prevent their dislodgment.

(13) When a scaffold materially changes its direction, the platform planks shall be laid to prevent tipping. The planks that meet the corner putlog at an angle shall be laid first, extending over the diagonally placed putlog far enough to have a good safe bearing, but not far enough to involve any danger from tipping. The planking running in the opposite direction at an angle shall be laid so as to extend over and rest on the first layer of planking.

(14) When moving platforms to the next level, the old platform shall be left

undisturbed until the new putlogs or bearers have been set in place, ready to receive the platform planks.

(15) Guardrails, made of lumber not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a mid-rail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or

floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section, when required.

(16) All wood pole scaffolds 60 feet or less in height shall be constructed and erected in accordance with Tables L-4 to 10. If they are over 60 feet in height, they shall be designed by a qualified engineer competent in this field, and it shall be constructed and erected in accordance with such design.

TABLE L-4—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS, LIGHT DUTY

	Maximum height of scaffold	
	20 ft.	60 ft.
Uniformly distributed load.....	Not to exceed 25 p.s.f.	
Poles or uprights.....	2 x 4 in.	4 x 4 in.
Pole spacing (longitudinal).....	6 ft. 0 in.	10 ft. 0 in.
Maximum width of scaffold.....	5 ft. 0 in.	5 ft. 0 in.
Bearers or putlogs to 3 ft. 0 in. width.....	2 x 4 in.	2 x 4 in.
Bearers or putlogs to 5 ft. 0 in. width.....	2 x 6 in. or 3 x 4 in.	2 x 6 in. or 3 x 4 in. (rough).
Ledgers.....	1 x 4 in.	1 1/2 x 9 in.
Planking.....	1 1/2 x 9 in. (rough)	2 x 10 in.
Vertical spacing of horizontal members.....	7 ft. 0 in.	9 ft. 0 in.
Bracing, horizontal and diagonal.....	1 x 4 in.	1 x 4 in.
Tie-ins.....	1 x 4 in.	1 x 4 in.
Toeboards.....	4 in. high (minimum)	4 in. high (minimum).
Guardrail.....	2 x 4 in.	2 x 4 in.

All members except planking are used on edge.

TABLE L-5—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS—MEDIUM DUTY

Uniformly distributed load.....	Not to exceed 50 p.s.f.
Maximum height of scaffold.....	60 ft.
Poles or uprights.....	4 x 4 in.
Pole spacing (longitudinal).....	8 ft. 0 in.
Maximum width of scaffold.....	5 ft. 0 in.
Bearers or putlogs.....	2 x 10 in. or 3 x 4 in.
Spacing of bearers or putlogs.....	8 ft. 0 in.
Ledgers.....	2 x 10 in.
Vertical spacing of horizontal members.....	7 ft. 0 in.
Bracing, horizontal.....	1 x 6 in. or 1 1/2 x 4 in.
Bracing, diagonal.....	1 x 4 in.
Tie-ins.....	1 x 4 in.
Planking.....	2 x 10 in.
Toeboards.....	4-in. high (minimum).
Guardrail.....	2 x 4 in.

All members except planking are used on edge.

TABLE L-6—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF SINGLE POLE SCAFFOLDS—HEAVY DUTY

Uniformly distributed load.....	Not to exceed 75 p.s.f.
Maximum height of scaffold.....	60 ft.
Poles or uprights.....	4 x 6 in.
Pole spacing (longitudinal).....	6 ft. 0 in.
Maximum width of scaffold.....	5 ft. 0 in.
Bearers or putlogs.....	2 x 10 in. or 3 x 5 in.
Spacing of bearers or putlog.....	6 ft. 0 in.
Ledgers.....	2 x 10 in.
Vertical spacing of horizontal members.....	6 ft. 6 in.
Bracing, horizontal and diagonal.....	2 x 4 in.
Tie-ins.....	1 x 4 in.
Planking.....	2 x 10 in.
Toeboards.....	4-in. high (minimum).
Guardrail.....	2 x 4 in.

All members except planking are used on edge.

TABLE L-7—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLD LIGHT DUTY

	Maximum height of scaffold	
	20 ft.	60 ft.
Uniformly distributed load.....	Not to exceed 25 p.s.f.	
Poles or uprights.....	2 x 4 in.	4 x 4 in.
Pole spacing (longitudinal).....	6 ft. 0 in.	10 ft. 0 in.
Pole spacing (transverse).....	6 ft. 0 in.	10 ft. 0 in.
Ledgers.....	1 1/2 x 4 in.	1 1/2 x 9 in.
Bearers to 3 ft. 0 in. span.....	2 x 4 in.	2 x 4 in.
Bearers to 10 ft. 0 in. span.....	2 x 6 in. or 3 x 4 in.	2 x 10 (rough) or 3 x 8 in.
Planking.....	1 1/2 x 9 in.	2 x 10 in.
Vertical spacing of horizontal members.....	7 ft. 0 in.	7 ft. 0 in.
Bracing, horizontal and diagonal.....	1 x 4 in.	1 x 4 in.
Tie-ins.....	1 x 4 in.	1 x 4 in.
Toeboards.....	4 in. high	4 in. high (minimum).
Guardrail.....	2 x 4 in.	2 x 4 in.

All members except planking are used on edge.

TABLE L-8—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLDS—MEDIUM DUTY

Uniformly distributed load.	Not to exceed 50 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights.	4 x 4 in.
Pole spacing (longitudinal).	8 ft. 0 in.
Pole spacing (transverse).	8 ft. 0 in.
Ledgers.	2 x 10 in.
Vertical spacing of horizontal members.	8 ft. 0 in.
Spacing of bearers.	8 ft. 0 in.
Bearers.	2 x 10 in.
Bracing, horizontal.	1 x 6 in. or 1 1/4 x 4 in.
Bracing, diagonal.	1 x 4 in.
Tie-ins.	1 x 4 in.
Planking.	2 x 10 in.
Toeboards.	4-in. high (minimum).
Guardrail.	2 x 4 in.

All members except planking are used on edge.

TABLE L-9—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF INDEPENDENT POLE SCAFFOLDS—HEAVY DUTY

Uniformly distributed load.	Not to exceed 75 p.s.f.
Maximum height of scaffold.	60 ft.
Poles or uprights.	4 x 4 in.
Pole spacing (longitudinal).	8 ft. 0 in.
Pole spacing (transverse).	8 ft. 0 in.
Ledgers.	2 x 10 in.
Vertical spacing of horizontal members.	8 ft. 0 in.
Bearers.	2 x 10 in. (rough).
Bracing, horizontal and diagonal.	2 x 4 in.
Tie-ins.	1 x 4 in.
Planking.	2 x 10 in.
Toeboards.	4-in. high (minimum).
Guardrail.	2 x 4 in.

All members except planking are used on edge.

(c) *Tube and coupler scaffolds.* (1) A light duty tube and coupler scaffold shall have all posts, bearers, runners, and bracing of nominal 2-inch O.D. steel tubing. The posts shall be spaced not more than 6 feet apart by 10 feet along the length of the scaffold. Other structural metals when used must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(2) A medium duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2-inch O.D. steel tubing. Posts spaced not more than 6 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2 1/2-inch O.D. steel tubing. Posts spaced not more than 5 feet apart by 8 feet along the length of the scaffold shall have bearers of nominal 2-inch O.D. steel tubing. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(3) A heavy duty tube and coupler scaffold shall have all posts, runners, and bracing of nominal 2-inch O.D. steel tubing, with the posts spaced not more than 6 feet by 6 feet-6 inches. Other structural metals, when used, must be designed to carry an equivalent load. No dissimilar metals shall be used together.

(4) Tube and coupler scaffolds shall be limited in heights and working levels to those permitted in Tables L-10, 11, and 12. Drawings and specifications of all tube and coupler scaffolds above the limitations in Tables L-10, 11, and 12 shall be designed by a qualified engineer competent in this field.

(5) All tube and coupler scaffolds shall be constructed and erected to support four times the maximum intended loads, as set forth in Tables L-10, 11, and 12, or as set forth in the specifications by a licensed professional engineer competent in this field.

TABLE L-10—TUBE AND COUPLER SCAFFOLDS LIGHT DUTY

Uniformly distributed load.	Not to exceed 25 p.s.f.
Post spacing (longitudinal).	10 ft. 0 in.
Post spacing (transverse).	8 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	8	125 ft.
2	4	125 ft.
3	0	91 ft. 0 in.

TABLE L-11—TUBE AND COUPLER SCAFFOLDS MEDIUM DUTY

Uniformly distributed load.	Not to exceed 50 p.s.f.
Post spacing (longitudinal).	8 ft. 0 in.
Post spacing (transverse).	6 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	6	125 ft.
2	0	78 ft. 0 in.

TABLE L-12—TUBE AND COUPLER SCAFFOLDS HEAVY DUTY

Uniformly distributed load.	Not to exceed 75 p.s.f.
Post spacing (longitudinal).	6 ft. 6 in.
Post spacing (transverse).	6 ft. 0 in.

Working levels	Additional planked levels	Maximum height
1	6	125 ft.

(6) Posts shall be accurately spaced, erected on suitable bases, and maintained plumb.

(7) Runners shall be erected along the length of the scaffold, located on both the inside and the outside posts at even height. Runners shall be interlocked to the inside and the outside posts at even heights. Runners shall be interlocked to form continuous lengths and coupled to each post. The bottom runners shall be located as close to the base as possible. Runners shall be placed not more than 6 feet-6 inches on centers.

(8) Bearers shall be installed transversely between posts and shall be securely coupled to the posts bearing on the runner coupler. When coupled direct-

ly to the runners, the coupler must be kept as close to the posts as possible.

(9) Bearers shall be at least 4 inches but not more than 12 inches longer than the post spacing or runner spacing.

(10) Cross bracing shall be installed across the width of the scaffold at least every third set of posts horizontally and every fourth runner vertically. Such bracing shall extend diagonally from the inner and outer runners upward to the next outer and inner runners.

(11) Longitudinal diagonal bracing on the inner and outer rows of poles shall be installed at approximately a 45° angle from near the base of the first outer post upward to the extreme top of the scaffold. Where the longitudinal length of the scaffold permits, such bracing shall be duplicated beginning at every fifth post. In a similar manner, longitudinal diagonal bracing shall also be installed from the last post extending back and upward toward the first post. Where conditions preclude the attachment of this bracing to the posts, it may be attached to the runners.

(12) The entire scaffold shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.

(13) Guardrails, made of lumber not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a mid-rail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboard shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(d) *Tubular welded frame scaffolds.*

(1) Metal tubular frame scaffolds, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., shall be designed, constructed, and erected to safely support four times the maximum rated load.

(2) Spacing of panels or frames shall be consistent with the loads imposed.

(3) Scaffolds shall be properly braced by cross bracing or diagonal braces, or both, for securing vertical members together laterally, and the cross braces shall be of such length as will automatically square and align vertical members so that the erected scaffold is always plumb, square, and rigid. All brace connections shall be made secure.

(4) Scaffold legs shall be set on adjustable bases or plain bases placed on mud sills or other foundations adequate to support the maximum rated load.

(5) The frames shall be placed one on top of the other with coupling or stacking pins to provide proper vertical alignment of the legs.

(6) Where uplift may occur, panels shall be locked together vertically by pins or other equivalent suitable means.

(7) To prevent movement, the scaffold shall be secured to the building or structure at intervals not to exceed 30 feet horizontally and 26 feet vertically.

(8) Maximum permissible spans or planking shall be in conformity with paragraph (a) (10), of this section.

(9) Drawings and specifications for all frame scaffolds over 125 feet in height above the base plates shall be designed by a registered professional engineer.

(10) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), and approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(e) *Manually propelled mobile scaffolds.* (1) When free-standing mobile scaffold towers are used, the height shall not exceed four times the minimum base dimension.

(2) Casters shall be properly designed for strength and dimensions to support four times the maximum intended load. All casters shall be provided with a positive locking device to hold the scaffold in position.

(3) Scaffolds shall be properly braced by cross bracing and horizontal bracing conforming with paragraph (d) (3) of this section.

(4) Platforms shall be tightly planked for the full width of the scaffold except for necessary entrance opening. Platforms shall be secured in place.

(5) A ladder or stairway shall be provided for proper access and exit and shall be affixed or built into the scaffold and so located that when in use it will not have a tendency to tip the scaffold. A landing platform must be provided at intervals not to exceed 35 feet.

(6) The force necessary to move the mobile scaffold shall be applied near or as close to the base as practicable and provision shall be made to stabilize the tower during movement from one location to another. Scaffolds shall only be moved on level floors, free of obstructions and openings.

(7) The employer shall not allow employees to ride on manually propelled scaffolds unless the following conditions exist:

(i) The floor or surface is within 3° of level, and free from pits, holes, or obstructions;

(ii) The minimum dimension of the scaffold base when ready for rolling, is at least one-half of the height. Outriggers, if used, shall be installed on both sides of staging;

(iii) The wheels are equipped with rubber or similar resilient tires;

(iv) All tools and materials are secured or removed from the platform before the mobile scaffold is moved.

(8) Scaffolds in use by any persons shall rest upon a suitable footing and shall stand plumb. The casters or wheels shall be locked to prevent any movement.

(9) Mobile scaffolds constructed of metal members shall also conform to

applicable provisions of paragraphs (b), (c), or (d) of this section, depending on the material of which they are constructed.

(10) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(f) *Elevating and rotating work platforms.* Applicable requirements of American National Standards Institute A92.2-1969, Vehicle Mounted Elevating and Rotating Work Platforms, shall be complied with for such equipment, as required by the provisions of § 1926.556.

(g) *Outrigger scaffolds.* (1) Outrigger beams shall extend not more than 6 feet beyond the face of the building. The inboard end of outrigger beams, measured from the fulcrum point to anchorage point, shall be not less than 1½ times the outboard end in length. The beams shall rest on edge, the sides shall be plumb, and the edges shall be horizontal. The fulcrum point of the beam shall rest on a secure bearing at least 6 inches in each horizontal dimension. The beam shall be secured in place against movement and shall be securely braced at the fulcrum point against tipping.

(2) The inboard ends of outrigger beams shall be securely anchored either by means of struts bearing against sills in contact with the overhead beams or ceiling, or by means of tension members secured to the floor joists underfoot, or by both if necessary. The inboard ends of outrigger beams shall be secured against tipping and the entire supporting structure shall be securely braced in both directions to prevent any horizontal movement.

(3) Unless outrigger scaffolds are designed by a registered professional engineer competent in this field, they shall be constructed and erected in accordance with Table L-13. Outrigger scaffolds, designed by a registered professional engineer, shall be constructed and erected in accordance with such design.

TABLE L-13—MINIMUM NOMINAL SIZE AND MAXIMUM SPACING OF MEMBERS OF OUTRIGGER SCAFFOLDS

Maximum scaffold load.	Light duty		Medium duty	
	25 p.s.f.		50 p.s.f.	
Outrigger size.....	2 x 10 in.	3 x 10 in.	2 x 10 in.	3 x 10 in.
Maximum outrigger spacing.....	10 ft. 0 in.	6 ft. 0 in.	2 x 4 in.	2 x 4 in.
Planking.....	2 x 10 in.	2 x 10 in.	2 x 4 in.	2 x 4 in.
Guardrail.....	2 x 4 in.	2 x 4 in.	2 x 4 in.	2 x 4 in.
Guardrail uprights.....	2 x 4 in.	2 x 4 in.	2 x 4 in.	2 x 4 in.
Toeboards.....	4 in. (minimum).	4 in. (minimum).	4 in. (minimum).	4 in. (minimum).

(4) Planking shall be laid tight and shall extend to within 3 inches of the building wall. Planking shall be secured to the beams.

(5) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(h) *Masons' adjustable multiple-point suspension scaffolds.* (1) The scaffold shall be capable of sustaining a working load of 50 pounds per square foot and shall not be loaded in excess of that figure.

(2) The scaffold shall be provided with hoisting machines that meet the requirements of Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(3) The platform shall be supported by wire ropes, capable of supporting at least 6 times the intended load, suspended from overhead outrigger beams.

(4) The scaffold outrigger beams shall consist of structural metal securely fastened or anchored to the frame or floor system of the building or structure.

(5) Each outrigger beam shall be equivalent in strength to at least a standard 7-inch, 15.3-pound steel I-beam, at least 15 feet long, and shall not project more than 6 feet 6 inches beyond the bearing point.

(6) Where the overhang exceeds 6 feet 6 inches, outrigger beams shall be composed of stronger beams or multiple beams and be installed under the supervision of a competent person.

(7) All outrigger beams shall be set and maintained with their webs in a vertical position.

(8) A stop bolt shall be placed at each end of every outrigger beam.

(9) The outrigger beam shall rest on suitable wood bearing blocks.

(10) The free end of the suspension wire ropes shall be equipped with proper size thimbles and secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum and at least four turns of wire rope shall at all times remain on the drum. The use of fiber rope is prohibited.

(11) Where a single outrigger beam is used, the steel shackles or clevises with which the wire ropes are attached to the outrigger beams shall be placed directly over the hoisting drums.

(12) The scaffold platform shall be equivalent in strength to at least 2-inch planking. (For maximum planking spans, see paragraph (a) (11) of this section.)

(13) When employees are at work on the scaffold and an overhead hazard exists, overhead protection shall be provided on the scaffold, not more than 9 feet above the platform, consisting of 2-inch planking, or material of equivalent strength, laid tight, and extending not less than the width of the scaffold.

(14) Each scaffold shall be installed or relocated under the supervision of a competent person.

(15) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a mid-rail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(i) *(Swinging scaffolds) two-point suspension.* (1) Two-point suspension scaffold platforms shall be not less than 20 inches nor more than 36 inches wide overall. The platform shall be securely fastened to the hangers by U-bolts or by other equivalent means.

(2) The hangers of two-point suspension scaffolds shall be made of mild steel, or other equivalent materials, having a cross-sectional area capable of sustaining 4 times the maximum rated load, and shall be designed with a support for guardrail, intermediate rail, and toeboard.

(3) When hoisting machines are used on two-point suspension scaffolds, such machines shall be of a design tested and approved by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(4) The roof irons or hooks shall be of mild steel, or other equivalent material, of proper size and design, securely installed and anchored. Tiebacks of 3/4-inch manila rope, or the equivalent, shall serve as a secondary means of anchorage, installed at right angles to the face of the building, whenever possible, and secured to a structurally sound portion of the building.

(5) Two-point suspension scaffolds shall be suspended by wire, synthetic, or fiber ropes capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least four times the rated load.

(6) The sheaves of all blocks, consisting of at least one double and one single block, shall fit the size and type of rope used.

(7) All wire ropes, fiber and synthetic ropes, slings, hangers, platforms, and other supporting parts shall be inspected before every installation. Periodic inspections shall be made while the scaffold is in use.

(8) On suspension scaffolds designed for a working load of 500 pounds, no more than two men shall be permitted to work at one time. On suspension scaffolds with a working load of 750 pounds, no more than three men shall be permitted to work at one time. Each employee shall be protected by an approved safety life belt attached to a lifeline. The lifeline shall be securely attached to substantial members of the structure (not scaffold), or to securely rigged lines, which will safely suspend the employee in case of a fall. In order to keep the lifeline continuously attached, with a minimum of slack, to a fixed structure, the attachment point of the lifeline shall

be appropriately changed as the work progresses.

(9) Two-point suspension scaffolds shall be securely lashed to the building or structure to prevent them from swaying. Window cleaners' anchors shall not be used for this purpose.

(10) The platform of every two-point suspension scaffold shall be one of the following types:

(i) *Ladder-type platforms.* The side stringer shall be of clear straight-grained spruce or materials of equivalent strength and durability. The rungs shall

be of straight-grained oak, ash, or hickory, at least 1 1/2 inch in diameter, with 3/8-inch tenons mortised into the side stringers at least seven-eighths inch. The stringers shall be tied together with tie rods not less than one-quarter inch in diameter, passing through the stringers and riveted up tight against washers on both ends. The flooring strips shall be spaced not more than five-eighths inch apart except at the side rails where the space may be 1 inch. Ladder-type platforms shall be constructed in accordance with Table L-14.

TABLE L-14—SCHEDULE FOR LADDER-TYPE PLATFORMS

	Length of platform (feet)				
	12	14 and 16	18 and 20	22 and 24	28 and 30
Side Stringers, minimum cross section (finished sizes):					
At ends (inches)	1 1/2 x 2 3/4	1 1/2 x 2 3/4	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3 1/4
At middle (inches)	1 1/2 x 3 1/4	1 1/2 x 3 1/4	1 1/2 x 4	1 1/2 x 4 1/4	1 1/2 x 5
Reinforcing strip (minimum)	A 1/4 x 1/2-inch steel reinforcing strip or its equivalent shall be attached to the side or underside, full length.				
Rungs	Rungs shall be 1 1/2-inch minimum diameter with at least 3/8-inch diameter tenons, and the maximum spacing shall be 12 inches center to center.				
Tie rods:					
Number (minimum)	3	4	4	5	6
Diameter (minimum)	3/4 in.	3/4 in.	3/4 in.	3/4 in.	3/4 in.
Flooring, minimum finished size (inches)	1 1/2 x 2 3/4	1 1/2 x 2 3/4	1 1/2 x 2 3/4	1 1/2 x 2 3/4	1 1/2 x 2 3/4

(ii) *Plank-type platforms.* Plank-type platforms shall be composed of not less than nominal 2- x 10-inch unspliced planks, properly cleated together on the underside, starting 6 inches from each end; intervals in between shall not exceed 4 feet. The plank-type platform shall not extend beyond the hangers more than 12 inches. A bar or other effective means shall be securely fastened to the platform at each end to prevent its slipping off the hanger. The span between hangers for plank-type platforms shall not exceed 8 feet.

(iii) *Beam-type platforms.* Beam platforms shall have side stringers of lumber not less than 2 x 6 inches set on edge. The span between hangers shall not exceed 12 feet when beam platforms are used. The flooring shall be supported on 2- x 6-inch cross beams, laid flat and set into the upper edge of the stringers with a snug fit, at intervals of not more than 4 feet, securely nailed in place. The flooring shall be of 1- x 6-inch material properly nailed. Floor boards shall not be spaced more than one-half inch apart.

(iv) *Light metal-type platforms,* when used, shall be tested and listed according to Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(11) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a mid-rail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a)(6) of this section.

(j) *Stone setters' adjustable multiple-point suspension scaffolds.* (1) The scaffold shall be capable of sustaining a working load of 25 pounds per square foot

and shall not be overloaded. Scaffolds shall not be used for storage of stone or other heavy materials.

(2) When used, the hoisting machine and its supports shall be of a type tested and listed by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(3) The platform shall be securely fastened to the hangers by U-bolts or other equivalent means. (For materials and spans, see subdivision (ii) of paragraph (i)(10), Plank-Type Platforms, and Table L-14 of this section.)

(4) The scaffold unit shall be suspended from metal outriggers, iron brackets, wire rope slings, or iron hooks.

(5) Outriggers, when used, shall be set with their webs in a vertical position, securely anchored to the building or structure and provided with stop bolts at each end.

(6) The scaffold shall be supported by wire rope capable of supporting at least 6 times the rated load. All other components shall be capable of supporting at least 4 times the rated load.

(7) The free ends of the suspension wire ropes shall be equipped with proper size thimbles, secured by splicing or other equivalent means. The running ends shall be securely attached to the hoisting drum and at least four turns of wire rope shall remain on the drum at all times.

(8) When two or more scaffolds are used on a building or structure, they shall not be bridged one to the other, but shall be maintained at even height with platforms abutting closely.

(9) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a mid-rail, and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of

4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(k) *Single-point adjustable suspension scaffolds.* (1) The scaffolding, including power units or manually operated winches, shall be of a type tested and listed by Underwriters' Laboratories or Factory Mutual Engineering Corporation.

(2) The power units may be either electrically or air motor driven.

(3) All power-operated gears and brakes shall be enclosed.

(4) In addition to the normal operating brake, all power-driven units shall have an emergency brake which engages automatically when the normal speed of descent is exceeded.

(5) The hoisting machines, cables, and equipment shall be regularly serviced and inspected.

(6) The units may be combined to form a two-point suspension scaffold. Such scaffold shall then comply with paragraph (i) of this section.

(7) The supporting cable shall be vertical for its entire length, and the basket shall not be swayed nor the cable fixed to any intermediate points to change the original path of travel.

(8) Suspension methods shall conform to applicable provisions of paragraphs (h) and (i) of this section.

(9) Guards, midrails, and toeboards shall completely enclose the cage or basket. Guardrails shall be no less than 2 x 4 inches or the equivalent, approximately 42 inches above the platform. Midrails shall be 1 x 6 inches or the equivalent, installed equidistant between the guardrail and the platform. Toeboards shall be a minimum of 4 inches in height.

(10) For additional details not covered in this paragraph, applicable technical portions of American National Standards Institute, A120.1-1970, Power-Operated Devices for Exterior Building Maintenance Powered Platforms, shall be used.

(l) *Boatswain's chairs.* (1) The chair seat shall not be less than 12 x 24 inches, and 1-inch thickness. The seat shall be reinforced on the underside by cleats securely fastened to prevent the board from splitting.

(2) The two fiber rope seat slings shall be of 3/4-inch diameter, reeved through the four seat holes so as to cross each other on the underside of the seat.

(3) Seat slings shall be of at least 3/4-inch wire rope when an employee is conducting a heat-producing process, such as gas or arc welding.

(4) The employee shall be protected by a safety belt and lifeline in accordance with § 1926.104. The attachment point of the lifeline to the structure shall be appropriately changed as the work progresses.

(5) The tackle shall consist of correct size ball bearing or bushed blocks and properly spliced 3/4-inch diameter first-grade manila rope, or equivalent.

(6) The roof irons, hooks, or the object to which the tackle is anchored, shall be securely installed. Tiebacks, when used, shall be installed at right angles to the face of the building and securely fastened.

(m) *Carpenters' bracket scaffolds.* (1) The brackets shall consist of a triangular wood frame not less than 2 x 3 inches in cross section, or of metal of equivalent strength. Each member shall be properly fitted and securely joined.

(2) Each bracket shall be attached to the structure by means of one of the following:

(i) A bolt, not less than five-eighths inch in diameter, which shall extend through to the inside of the building wall;

(ii) A metal stud attachment device;

(iii) Welding to steel tanks;

(iv) Hooking over a well-secured and adequately strong supporting member.

(3) The brackets shall be spaced no more than 8 feet apart.

(4) No more than two employees shall occupy any given 8 feet of a bracket scaffold at any one time. Tools and materials shall not exceed 75 pounds in addition to the occupancy.

(5) The platform shall consist of not less than two 2- x 10-inch nominal size planks extending not more than 12 inches or less than 6 inches beyond each end support.

(6) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(n) *Bricklayers' square scaffolds.* (1) The squares shall not exceed 5 feet in width and 5 feet in height.

(2) Members shall be not less than those specified in Table L-15.

TABLE L-15—MINIMUM DIMENSIONS FOR BRICKLAYERS' SQUARE SCAFFOLD MEMBERS

Members	Dimensions
Bearers or horizontal members	2 x 6 in.
Legs	2 x 6 in.
Braces at corners	1 x 6 in.
Braces diagonally from center frame	1 x 8 in.

(3) The squares shall be reinforced on both sides of each corner with 1- x 6-inch gusset pieces. They shall also have diagonal braces 1 x 8 inches on both sides running from center to center of each member, or other means to secure equivalent strength and rigidity.

(4) The squares shall be set not more than 5 feet apart for medium duty scaffolds, and not more than 8 feet apart for light duty scaffolds. Bracing, 1 x 8 inches, extending from the bottom of each square to the top of the next square, shall be provided on both front and rear sides of the scaffold.

(5) Platform planks shall be at least 2- x 10-inch nominal size. The ends of the planks shall overlap the bearers of the squares and each plank shall be supported by not less than three squares.

(6) Bricklayers' square scaffolds shall not exceed three tiers in height and shall be so constructed and arranged that one

square shall rest directly above the other. The upper tiers shall stand on a continuous row of planks laid across the next lower tier and be nailed down or otherwise secured to prevent displacement.

(7) Scaffolds shall be level and set upon a firm foundation.

(o) *Horse scaffolds.* (1) Horse scaffolds shall not be constructed or arranged more than two tiers or 10 feet in height.

(2) The members of the horses shall be not less than those specified in Table L-16.

TABLE L-16—MINIMUM DIMENSIONS FOR HORSE SCAFFOLD MEMBERS

Members	Dimensions
Horizontal members or bearers	3 x 4 in.
Legs	1 1/4 x 4 1/2 in.
Longitudinal brace between legs	1 x 6 in.
Gusset brace at top of legs	1 x 8 in.
Half diagonal braces	1 1/4 x 4 1/2 in.

(3) Horses shall be spaced not more than 5 feet for medium duty and not more than 8 feet for light duty.

(4) When arranged in tiers, each horse shall be placed directly over the horse in the tier below.

(5) On all scaffolds arranged in tiers, the legs shall be nailed down or otherwise secured to the planks to prevent displacement or thrust and each tier shall be substantially cross braced.

(6) Horses or parts which have become weak or defective shall not be used.

(7) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail, of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(p) *Needle beam scaffold.* (1) Wood needle beams shall be not less than 4 x 6 inches in size, with the greater dimension placed in a vertical direction. Metal beams or the equivalent, conforming to paragraphs (a) (8) and (10) of this section, may be used and shall not be altered or moved horizontally while they are in use.

(2) Ropes or hangers shall be provided for supports. The span between supports on the needle beam shall not exceed 10 feet for 4- x 6-inch timbers. Rope supports shall be equivalent in strength to 1-inch diameter first-grade manila rope.

(3) The ropes shall be attached to the needle beams by a scaffold hitch or a properly made eye splice. The loose end of the rope shall be tied by a bowline knot or by a round turn and a half hitch.

(4) The scaffold hitch shall be arranged so as to prevent the needle beam from rolling or becoming otherwise displaced.

(5) The platform span between the needle beams shall not exceed 8 feet

when using 2-inch scaffold plank. For spans greater than 8 feet, platforms shall be designed based on design requirements for the special span. The overhang of each end of the platform planks shall be not less than 6 inches and not more than 12 inches.

(6) When needle beam scaffolds are used, the planks shall be secured against slipping.

(7) All unattached tools, bolts, and nuts used on needle beam scaffolds shall be kept in suitable containers, properly secured.

(8) One end of a needle beam scaffold may be supported by a permanent structural member conforming to paragraphs (a) (8) and (10) of this section.

(9) Each employee working on a needle beam scaffold shall be protected by a safety belt and lifeline in accordance with § 1926.104.

(q) *Plasterers', decorators', and large area scaffolds.* (1) Plasterers', lathers', and ceiling workers' inside scaffolds shall be constructed in accordance with the general requirements set forth for independent wood pole scaffolds. (See paragraph (b) and Tables L-7, 8, and 9 of this section.)

(2) All platform planks shall be laid with the edges close together.

(3) When independent pole scaffold platforms are erected in sections, such sections shall be provided with connecting runways equipped with substantial guardrails.

(4) Guardrails made of lumber, not less than 2 x 4 inches (or other material providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed on all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(r) *Interior hung scaffolds.* (1) An interior hung scaffold shall be hung or suspended from the roof structure or ceiling beams.

(2) The suspending wire or fiber rope shall be capable of supporting at least 6 times the rated load. The rope shall be wrapped at least twice around the supporting members and twice around the bearers of the scaffold, with each end of the wire rope secured by at least three standard wire-rope clips properly installed.

(3) For hanging wood scaffolds, the following minimum nominal size material shall be used:

(i) Supporting bearers 2 x 10 inches on edge;

(ii) Planking 2 x 10 inches, with maximum span 7 feet for heavy duty and 10 feet for light duty or medium duty.

(4) Steel tube and coupler members may be used for hanging scaffolds with both types of scaffold designed to sustain a uniform distributed working load up to heavy duty scaffold loads with a safety factor of four.

(5) Guardrails made of lumber, not less than 2 x 4 inches (or other ma-

terial providing equivalent protection), approximately 42 inches high, with a midrail of 1 x 6 inch lumber (or other material providing equivalent protection), and toeboards, shall be installed at all open sides and ends on all scaffolds more than 10 feet above the ground or floor. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with paragraph (a) (6) of this section.

(s) *Ladder jack scaffolds.* (1) All ladder jack scaffolds shall be limited to light duty and shall not exceed a height of 20 feet above the floor or ground.

(2) All ladders used in connection with ladder jack scaffolds shall be heavy-duty ladders and shall be designed and constructed in accordance with American National Standards Institute A 14.1-1968, Safety Code for Portable Wood Ladders, and A 14.2-1968, Safety Code for Portable Metal Ladders. Cleated ladders shall not be used for this purpose.

(3) The ladder jack shall be so designed and constructed that it will bear on the side rails in addition to the ladder rungs, or if bearing on rungs only, the bearing area shall be at least 10 inches on each rung.

(4) Ladders used in conjunction with ladder jacks shall be so placed, fastened, held, or equipped with devices so as to prevent slipping.

(5) The wood platform planks shall be not less than 2 inches nominal in thickness. Both metal and wood platform planks shall overlap the bearing surface not less than 12 inches. The span between supports for wood shall not exceed 8 feet. Platform width shall be not less than 18 inches.

(6) Not more than two employees shall occupy any given 8 feet of any ladder jack scaffold at any one time.

(t) *Window jack scaffolds.* (1) Window jack scaffolds shall be used only for the purpose of working at the window opening through which the jack is placed.

(2) Window jacks shall not be used to support planks placed between one window jack and another or for other elements of scaffolding.

(3) Window jack scaffolds shall be provided with guardrails unless safety belts with lifelines are attached and provided for employee.

(4) Not more than one employee shall occupy a window jack scaffold at any one time.

(u) *Roofing brackets.* (1) Roofing brackets shall be constructed to fit the pitch of the roof.

(2) Brackets shall be secured in place by nailing in addition to the pointed metal projections. When it is impractical to nail brackets, rope supports shall be used. When rope supports are used, they shall consist of first-grade manila of at least 3/4-inch diameter, or equivalent.

(3) A catch platform shall be installed below the working area of roofs more than 16 feet from the ground to eaves with a slope greater than 4 inches in 12 inches without a parapet. In width, the platform shall extend 2 feet beyond the protection of the eaves and shall be provided with a guardrail, midrail, and toeboard. This provision shall not apply where employees engaged in work

upon such roofs are protected by a safety belt attached to a lifeline.

(v) *Crawling boards or chicken ladders.* (1) Crawling boards shall be not less than 10 inches wide and 1 inch thick, having cleats 1 x 1 1/2 inches. The cleats shall be equal in length to the width of the board and spaced at equal intervals not to exceed 24 inches. Nails shall be driven through and clinched on the underside. The crawling board shall extend from the ridge pole to the eaves when used in connection with roof construction, repair, or maintenance.

(2) A firmly fastened lifeline of at least 3/4-inch diameter rope, or equivalent, shall be strung beside each crawling board for a handhold.

(3) Crawling boards shall be secured to the roof by means of adequate ridge hooks or other effective means.

(w) *Float or ship scaffolds.* (1) Float or ship scaffolds shall not be used to support more than three men and a few light tools, such as those needed for riveting, bolting, and welding. They shall be constructed as designed in paragraph (w) (2) through (6) of this section unless substitute designs and materials provide equivalent strength, stability, and safety.

(2) The platform shall be not less than 3 feet wide and 6 feet long, made of 3/4-inch plywood, equivalent to American Plywood Association Grade B-B, Group I, Exterior, or other similar material.

(3) Under the platform, there shall be two supporting bearers made from 2- x 4-inch, or 1- x 10-inch rough, "selected lumber," or better. They shall be free of knots or other flaws and project 6 inches beyond the platform on both sides. The ends of the platform shall extend 6 inches beyond the outer edges of the bearers. Each bearer shall be securely fastened to the platform.

(4) An edging of wood not less than 3/4 x 1 1/2 inches or equivalent shall be placed around all sides of the platform to prevent tools from rolling off.

(5) Supporting ropes shall be 1-inch diameter manila rope or equivalent, free from deterioration, chemical damage, flaws, or other imperfections. Rope connections shall be such that the platform cannot shift or slip. If two ropes are used with each float, they shall be arranged so as to provide four ends which are to be securely fastened to an overhead support. Each of the two supporting ropes shall be hitched around one end of bearer and pass under the platforms to the other end of the bearer where it is hitched again, leaving sufficient rope at each end for the supporting ties.

(6) Each employee shall be protected by an approved safety lifebelt and lifeline, in accordance with § 1926.104.

(x) *Form scaffolds.* (1) Form scaffolds shall be constructed of wood or other suitable materials, such as steel or aluminum members of known strength characteristics. All scaffolds shall be designed and erected with a minimum safety factor of 4, computed on the basis of the maximum rated load.

(2) All scaffold planking shall be a minimum of 2- x 10-inch nominal Scaffold Grade, as recognized by approved grading rules for the species of lumber

used, or equivalent material. Maximum permissible spans shall not exceed 8 feet on centers for 2- x 10-inch nominal planking. Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at least 6 inches. Unsupported projecting ends of scaffolding planks shall be limited to a maximum overhang of 12 inches.

(3) Scaffolds shall not be loaded in excess of the working load for which they were designed.

(4) Figure-four form scaffolds: (i) Figure-four scaffolds are intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot unless specifically designed for heavier loading. For minimum design criteria, see Table L-17.

TABLE L-17—MINIMUM DESIGN CRITERIA FOR FIGURE-FOUR FORM SCAFFOLDS

Members	Dimensions
Uprights	2 x 4 in. or 2 x 6 in.
Outriggers ledgers (two).	1 x 6 in.
Braces	1 x 6 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guard-rails.	1 x 6 in.
Toeboards	4 in. (minimum).
Maximum length of ledgers.	3 ft. 6 in. (unsupported).
Planking	2 x 10 in.
Upright spacing	8 ft. 0 in. (on centers).

(ii) Figure-four form scaffold frames shall be spaced not more than 8 feet on centers and constructed from sound lumber, as follows: The outrigger ledger shall consist of two pieces of 1- x 6-inch or heavier material nailed on opposite sides of the vertical form support. Ledgers shall project not more than 3 feet 6 inches from the outside of the form support and shall be substantially braced and secured to prevent tipping or turning. The knee or angle brace shall intersect the ledger at least 3 feet from the form at an angle of approximately 45°, and the lower end shall be nailed to a vertical support. The platform shall consist of two or more 2- x 10-inch planks, which shall be of such length that they extend at least 6 inches beyond ledgers at each end unless secured to the ledgers. When planks are secured to the ledgers (nailed or bolted), a wood filler strip shall be used between the ledgers. Unsupported projecting ends of planks shall be limited to an overhang of 12 inches.

(5) Metal bracket form scaffolds: (i) Metal brackets or scaffold jacks which are an integral part of the form shall be securely bolted or welded to the form. Folding type brackets shall be either bolted or secured with a locking-type pin when extended for use.

(ii) "Clip-on" or "hook-over" brackets may be used, provided the form walers are bolted to the form or secured by snap ties or shea-bolt extending through the form and securely anchored.

(iii) Metal brackets shall be spaced not more than 8 feet on centers.

(iv) Scaffold planks shall be either bolted to the metal brackets or of such length that they overlap the brackets at each end by at least 6 inches. Unsupported projecting ends of scaffold planks

shall be limited to a maximum overhang of 12 inches.

(v) Metal bracket form scaffolds shall be equipped with wood guardrails, intermediate rails, toeboards, and scaffold planks meeting the minimum dimensions shown in Table L-18. (Metal may be substituted for wood, providing it affords equivalent or greater design strength.)

TABLE L-18—MINIMUM DESIGN CRITERIA FOR METAL BRACKET FORM SCAFFOLDS

Members	Dimensions
Uprights	2 x 4 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guard-rails.	1 x 6 in.
Toeboards	4 in. (minimum).
Planking	2 x 9 in.

(6) Wooden bracket form scaffolds: (i) Wooden bracket form scaffolds shall be an integral part of the form panel. The minimum design criteria set forth herein and in Table L-19 cover scaffolding intended for light duty and shall not be used to support loads exceeding 25 pounds per square foot, unless specifically designed for heavier loading.

(ii) Scaffold planks shall be either nailed or bolted to the ledgers or of such length that they overlap the ledgers at each end by at least 6 inches. Unsupported projecting ends of scaffold planks shall be limited to a maximum overhang of 12 inches.

TABLE L-19—MINIMUM DESIGN CRITERIA FOR WOODEN BRACKET FORM SCAFFOLDS

Members	Dimensions
Uprights	2 x 4 in. or 2 x 6 in.
Support ledgers	2 x 6 in.
Maximum scaffold width.	3 ft. 6 in.
Braces	1 x 6 in.
Guardrails	2 x 4 in.
Guardrail height	Approximately 42 in.
Intermediate guard-rails.	1 x 6 in.
Toeboards	4 in. (minimum).
Upright spacing	8 ft. 0 in. (on centers).

(iii) Guardrails and toeboards shall be installed on all open sides and ends of platforms and scaffolding over 10 feet above floor or ground. Guardrails shall be made of lumber 2 x 4 inch nominal dimension (or other material providing equivalent protection), approximately 42 inches high, supported at intervals not to exceed 8 feet. Guardrails shall be equipped with midrails constructed of 1 x 6 inch nominal lumber (or other material providing equivalent protection). Toeboards shall extend not less than 4 inches above the scaffold plank.

(v) Pump jack scaffolds. (1) Pump jack scaffolds shall:

(i) Not carry a working load exceeding 500 pounds; and

(ii) Be capable of supporting without failure at least four times the maximum intended load.

(iii) The manufactured components shall not be loaded in excess of the manufacturer's recommended limits.

(2) Pump jack brackets, braces, and accessories shall be fabricated from metal plates and angles. Each pump jack bracket shall have two positive gripping mechanisms to prevent any failure or slippage.

(3) The platform bracket shall be fully decked and the planking secured. Planking, or equivalent, shall conform with paragraph (a) of this section.

(4) (i) When wood scaffold planks are used as platforms, poles used for pump jacks shall not be spaced more than 10 feet center to center. When fabricated platforms are used that fully comply with all other provisions of this paragraph (y), pole spacing may exceed 10 feet center to center.

(ii) Poles shall not exceed 30 feet in height.

(iii) Poles shall be secured to the work wall by rigid triangular bracing, or equivalent, at the bottom, top, and other points as necessary, to provide a maximum vertical spacing of not more than 10 feet between braces. Each brace shall be capable of supporting a minimum of 225 pounds tension or compression.

(iv) For the pump jack bracket to pass bracing already installed, an extra brace shall be used approximately 4 feet above the one to be passed until the original brace is reinstalled.

(5) All poles shall bear on mud sills or other adequate firm foundations.

(6) Pole lumber shall be two 2 x 4's, of Douglas fir, or equivalent, straight-grained, clear, free of cross-grain, shakes, large loose or dead knots, and other defects which might impair strength.

(7) When poles are constructed of two continuous lengths, they shall be two by fours, spiked together with the seam parallel to the bracket, and with 10d common nails, no more than 12 inches center to center, staggered uniformly from opposite outside edges.

(8) If two by fours are spliced to make up the pole, the splices shall be so constructed as to develop the full strength of the member.

(9) A ladder, in accordance with § 1926.450, shall be provided for access to the platform during use.

(10) Not more than two persons shall be permitted at one time upon a pump jack scaffold between any two supports.

(11) Pump jacks scaffolds shall be provided with standard guardrails as defined in § 1926.451(a)(15), but no guardrail is required when safety belts with lifelines are provided for employees.

(12) When a work bench is used at an approximate height of 42 inches, the top guardrail may be eliminated, if the work bench is fully decked, the planking secured, and is capable of withstanding 200 pounds pressure in any direction.

(13) Employees shall not be permitted to use a work bench as a scaffold platform.

§ 1926.452 Definitions applicable to this subpart.

(a) "Ladders"—(1) "Cleats"—Ladder crosspieces of rectangular cross section placed on edge on which a person may step in ascending or descending.

(2) "Single cleat ladder"—One which consists of a pair of side rails, usually parallel, but with flared side rails permissible, connected together with cleats that are joined to the side rails at regular intervals.

(3) "Double cleat ladder"—One that is similar to a single cleat ladder, but is

wider, with an additional center rail which will allow for two-way traffic for workmen in ascending and descending.

(b) "Scaffolding"—(1) "Bearer"—A horizontal member of a scaffold upon which the platform rests and which may be supported by ledgers.

(2) "Boatswain's chair"—A seat supported by slings attached to a suspended rope, designed to accommodate one workman in a sitting position.

(3) "Brace"—A tie that holds one scaffold member in a fixed position with respect to another member.

(4) "Bricklayers' square scaffold"—A scaffold composed of framed wood squares which support a platform, limited to light and medium duty.

(5) "Carpenters' bracket scaffold"—A scaffold consisting of wood or metal brackets supporting a platform.

(6) "Coupler"—A device for locking together the component parts of a tubular metal scaffold. (The material used for the couplers shall be of a structural type, such as a drop-forged steel, malleable iron, or structural grade aluminum.)

(7) "Crawling board or chicken ladder"—A plank with cleats spaced and secured at equal intervals, for use by a worker on roofs, not designed to carry any material.

(8) "Double pole or independent pole scaffold"—A scaffold supported from the base by a double row of uprights, independent of support from the walls and constructed of uprights, ledgers, horizontal platform bearers, and diagonal bracing.

(9) "Float or ship scaffold"—A scaffold hung from overhead supports by means of ropes and consisting of a substantial platform having diagonal bracing underneath, resting upon and securely fastened to two parallel plank bearers at right angles to the span.

(10) "Guardrail"—A rail secured to uprights and erected along the exposed sides and ends of platforms.

(11) "Heavy duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 75 pounds per square foot.

(12) "Horse scaffold"—A scaffold for light or medium duty, composed of horses supporting a work platform.

(13) "Interior hung scaffold"—A scaffold suspended from the ceiling or roof structure.

(14) "Ladder jack scaffold"—A light duty scaffold supported by brackets attached to ladders.

(15) "Ledgers (stringer)"—A horizontal scaffold member which extends from post to post and which supports the putlogs or bearers forming a tie between the posts.

(16) "Light duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 25 pounds per square foot.

(17) "Manually propelled mobile scaffold"—A portable rolling scaffold supported by casters.

(18) "Masons' adjustable multiple-point suspension scaffold"—A scaffold having a continuous platform supported by bearers suspended by wire rope from overhead supports, so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

erated as to permit the raising or lowering of the platform to desired working positions.

(19) "Maximum rated load"—The total of all loads including the working load, the weight of the scaffold, and such other loads as may be reasonably anticipated.

(20) "Medium duty scaffold"—A scaffold designed and constructed to carry a working load not to exceed 50 pounds per square foot.

(21) "Midrail"—A rail approximately midway between the guardrail and platform, secured to the uprights erected along the exposed sides and ends of platforms.

(22) "Needle beam scaffold"—A light duty scaffold consisting of needle beams supporting a platform.

(23) "Outrigger scaffold"—A scaffold supported by outriggers or thrustouts projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside of such building or structure.

(24) "Putlog"—A scaffold member upon which the platform rests.

(25) "Roofing or bearer bracket"—A bracket used in slope roof construction, having provisions for fastening to the roof or supported by ropes fastened over the ridge and secured to some suitable object.

(26) "Runner"—The lengthwise horizontal bracing or bearing members or both.

(27) "Scaffold"—Any temporary elevated platform and its supporting structure used for supporting workmen or materials, or both.

(28) "Single-point adjustable suspension scaffold"—A manually or power-operated unit designed for light duty use, supported by a single wire rope from an overhead support so arranged and operated as to permit the raising or lowering of platform to desired working positions.

(29) "Single-pole scaffold"—Platforms resting on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row of posts or uprights, and the inner ends of which are supported on or in a wall.

(30) "Stone setters' adjustable multiple-point suspension scaffold"—A swinging type scaffold having a platform supported by hangers suspended at four points so as to permit the raising or lowering of the platform to the desired working position by the use of hoisting machines.

(31) "Toeboard"—A barrier secured along the sides and ends of a platform to guard against the falling of material.

(32) "Tube and coupler scaffold"—An assembly consisting of tubing which serves as posts, bearers, braces, ties, and runners, a base supporting the posts, and special couplers which serve to connect the uprights and to join the various members.

(33) "Tubular welded frame scaffold"—A sectional panel or frame metal scaffold substantially built up of prefabricated welded sections which consists of posts and horizontal bearer with intermediate members.

(34) "Two-point suspension scaffold

(swinging scaffold)"—A scaffold, the platform of which is supported by hangers (stirrups) at two points, suspended from overhead supports so as to permit the raising or lowering of the platform to the desired working position by tackle or hoisting machines.

(35) "Window jack scaffold"—A scaffold, the platform of which is supported by a bracket or jack which projects through a window opening.

(36) "Working load"—Load imposed by men, materials, and equipment.

Subpart M—Floor and Wall Openings, and Stairways

§ 1926.500 Guardrails, handrails, and covers.

(a) *General provision.* This subpart shall apply to temporary or emergency conditions where there is danger of employees or materials falling through floor, roof, or wall openings, or from stairways or runways.

(b) *Guarding of floor openings and floor holes.* (1) Floor openings shall be guarded by a standard railing and toeboards or cover, as specified in paragraph (f) of this section. In general, the railing shall be provided on all exposed sides, except at entrances to stairways.

(2) Ladderway floor openings or platforms shall be guarded by standard railings with standard toeboards on all exposed sides, except at entrance to opening, with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.

(3) Hatchways and chute floor openings shall be guarded by one of the following:

(i) Hinged covers of standard strength and construction and a standard railing with only one exposed side. When the opening is not in use, the cover shall be closed or the exposed side shall be guarded at both top and intermediate positions by removable standard railings;

(ii) A removable standard railing with toe board on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railing shall be kept in place when the opening is not in use and should preferably be hinged or otherwise mounted so as to be conveniently replaceable.

(4) Wherever there is danger of falling through a skylight opening, it shall be guarded by a fixed standard railing on all exposed sides or a cover capable of sustaining the weight of a 200-pound person.

(5) Pits and trap-door floor openings shall be guarded by floor opening covers of standard strength and construction. While the cover is not in place, the pit or trap openings shall be protected on all exposed sides by removable standard railings.

(6) Manhole floor openings shall be guarded by standard covers which need not be hinged in place. While the cover is not in place, the manhole opening shall be protected by standard railings.

(7) Temporary floor openings shall have standard railings.

(8) Floor holes, into which persons can

accidentally walk, shall be guarded by either a standard railing with standard toeboard on all exposed sides, or a floor hole cover of standard strength and construction that is secured against accidental displacement. While the cover is not in place, the floor hole shall be protected by a standard railing.

(9) Where doors or gates open directly on a stairway, a platform shall be provided, and the swing of the door shall not reduce the effective width of the platform to less than 20 inches.

(c) *Guarding of wall openings.* (1) Wall openings, from which there is a drop of more than 4 feet, and the bottom of the opening is less than 3 feet above the working surface, shall be guarded as follows:

(i) When the height and placement of the opening in relation to the working surface is such that either a standard rail or intermediate rail will effectively reduce the danger of falling, one or both shall be provided;

(ii) The bottom of a wall opening, which is less than 4 inches above the working surface, regardless of width, shall be protected by a standard toeboard or an enclosing screen either of solid construction or as specified in paragraph (f) (7) (ii) of this section.

(2) An extension platform outside a wall opening onto which materials can be hoisted for handling shall have side rails or equivalent guards of standard specifications. One side of an extension platform may have removable railings in order to facilitate handling materials.

(3) When a chute is attached to an opening, the provisions of paragraph (c) (1) of this section shall apply, except that a toeboard is not required.

(d) *Guarding of open-sided floors, platforms, and runways.* (1) Every open-sided floor or platform 6 feet or more above adjacent floor or ground level shall be guarded by a standard railing, or the equivalent, as specified in paragraph (f) (i) of this section, on all open sides, except where there is entrance to a ramp, stairway, or fixed ladder. The railing shall be provided with a standard toeboard wherever, beneath the open sides, persons can pass, or there is moving machinery, or there is equipment with which falling materials could create a hazard.

(2) Runways shall be guarded by a standard railing, or the equivalent, as specified in paragraph (f) of this section, on all open sides, 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard shall also be provided on each exposed side.

(3) Runways used exclusively for special purposes may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway not less than 18 inches wide.

(4) Where employees entering upon runways become thereby exposed to machinery, electrical equipment, or other danger not a falling hazard, additional guarding shall be provided.

(5) Regardless of height, open-sided floors, walkways, platforms, or runways

above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards shall be guarded with a standard railing and toeboard.

(e) *Stairway railings and guards.* (1) Every flight of stairs having four or more risers shall be equipped with standard stair railings or standard handrails as specified below, the width of the stair to be measured clear of all obstructions except handrails:

(i) On stairways less than 44 inches wide having both sides enclosed, at least one handrail, preferably on the right side descending;

(ii) On stairways less than 44 inches wide having one side open, at least one stair railing on the open side;

(iii) On stairways less than 44 inches wide having both sides open, one stair railing on each side;

(iv) On stairways more than 44 inches wide but less than 88 inches wide, one handrail on each enclosed side and one stair railing on each open side;

(v) On stairways 88 or more inches wide, one handrail on each enclosed side, one stair railing on each open side, and one intermediate stair railing located approximately midway of the width.

(2) Winding stairs shall be equipped with a handrail offset to prevent walking on all portions of the treads having width less than 6 inches.

(f) *Standard specifications.* (1) A standard railing shall consist of top rail, intermediate rail, toeboard, and posts, and shall have a vertical height of approximately 42 inches from upper surface of top rail to floor, platform, runway, or ramp level. The top rail shall be smooth-surfaced throughout the length of the railing. The intermediate rail shall be halfway between the top rail and the floor, platform, runway, or ramp. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard. Minimum requirements for standard railings under various types of construction are specified in the following paragraphs:

(i) For wood railings, the posts shall be of at least 2-inch by 4-inch stock spaced not to exceed 8 feet; the top rail shall be of at least 2-inch by 4-inch stock; the intermediate rail shall be of at least 1-inch by 6-inch stock.

(ii) For pipe railings, posts and top and intermediate railings shall be at least 1½ inches nominal diameter with posts spaced not more than 8 feet on centers.

(iii) For structural steel railings, posts and top and intermediate rails shall be of 2-inch by 2-inch by ¾-inch angles or other metal shapes of equivalent bending strength, with posts spaced not more than 8 feet on centers.

(iv) The anchoring of posts and framing of members for railings of all types shall be of such construction that the completed structure shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point on the top rail, with a minimum of deflection.

(v) Railings receiving heavy stresses from employees trucking or handling

materials shall be provided additional strength by the use of heavier stock, closer spacing of posts, bracing, or by other means.

(vi) Other types, sizes, and arrangements of railing construction are acceptable, provided they meet the following conditions:

(a) A smooth-surfaced top rail at a height above floor, platform, runway, or ramp level of approximately 42 inches;

(b) A strength to withstand at least the minimum requirement of 200 pounds top rail pressure with a minimum of deflection;

(c) Protection between top rail and floor, platform, runway, ramp, or stair treads, equivalent at least to that afforded by a standard intermediate rail;

(d) Elimination of overhang of rail ends unless such overhang does not constitute a hazard.

(2) A stair railing shall be of construction similar to a standard railing, but the vertical height shall be not more than 34 inches nor less than 30 inches from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread.

(3) (i) A standard toeboard shall be 4 inches minimum in vertical height from its top edge to the level of the floor, platform, runway, or ramp. It shall be securely fastened in place and have not more than ¼-inch clearance above floor level. It may be made of any substantial material, either solid, or with openings not over 1 inch in greatest dimension.

(ii) Where material is piled to such height that a standard toeboard does not provide protection, paneling or screening from floor to intermediate rail or to top rail shall be provided.

(4) (i) A standard handrail shall be of construction similar to a standard railing except that it is mounted on a wall or partition, and does not include an intermediate rail. It shall have a smooth surface along the top and both sides of the handrail. The handrail shall have an adequate handhold for any one grasping it to avoid falling. Ends of the handrail shall be constructed so as not to constitute a projection hazard.

(ii) The height of handrails shall be not more than 34 inches nor less than 30 inches from upper surface of handrail to surface of tread, in line with face of riser or to surface of ramp.

(iii) All handrails and railings shall be provided with a clearance of approximately 3 inches between the handrail or railing and any other object.

(5) Floor opening covers shall be of any material that meets the following strength requirements:

(i) Conduits, trenches, and manhole covers and their supports, when located in roadways, and vehicular aisles, shall be designed to carry a truck rear-axle load of at least 2 times the maximum intended load;

(ii) The floor opening cover shall be capable of supporting the maximum intended load and so installed as to prevent accidental displacement.

(6) Skylight openings that create a falling hazard shall be guarded with a standard railing, or covered in accord-

ance with paragraph (f)(5)(ii) of this section.

(7) Wall opening protection shall meet the following requirements:

(i) Barriers shall be of such construction and mounting that, when in place at the opening, the barrier is capable of withstanding a load of at least 200 pounds applied in any direction (except upward), with a minimum of deflection at any point on the top rail or corresponding member.

(ii) Screens shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied horizontally at any point on the near side of the screen. They may be of solid construction, of grill work with openings not more than 8 inches long, or of slat work with openings not more than 4 inches wide with length unrestricted.

§ 1926.501 Stairways.

(a) On all structures, two or more floors (20 feet or over) in height, stairways, ladders, or ramps shall be provided for employees during the construction period.

(b) Stairway railings and guardrails shall meet the requirements of § 1926.500 (e) and (f).

(c) All parts of stairways shall be free of hazardous projections, such as protruding nails.

(d) Debris, and other loose materials, shall not be allowed on or under stairways.

(e) Slippery conditions on stairways shall be eliminated as soon as possible after they occur.

(f) Permanent steel or other metal stairways, and landings with hollow pan-type treads that are to be filled with concrete or other materials, when used during construction, shall be filled to the level of the nosing with solid material. The requirement shall not apply during the period of actual construction of the stairways themselves.

(g) Wooden treads for temporary service shall be full width.

(h) Metal landings shall be secured in place before filling.

(i) Temporary stairs shall have a landing not less than 30 inches in the direction of travel at every 12 feet of vertical rise.

(j) Stairs shall be installed at angles to the horizontal of between 30° and 50°.

(k) Rise height and tread width shall be uniform throughout any flight of stairs including any foundation structure used as one or more treads of the stairs.

(l) All stairs shall be lighted in accordance with Subpart D of this part.

(m) Spiral stairways shall not be permitted except for special limited usage and secondary access situations where it is not practical to provide a conventional stairway.

§ 1926.502 Definitions applicable to this subpart.

(a) "Floor hole"—An opening measuring less than 12 inches but more than 1 inch in its least dimension in any floor, roof, or platform through which materials but not persons may fall, such as a belt hold, pipe opening, or slot opening.

(b) "Floor opening"—An opening measuring 12 inches or more in its least dimension in any floor, roof, or platform through which persons may fall.

(c) "Handrail"—A bar or pipe supported on brackets from a wall or partition, as on a stairway or ramp, to furnish persons with a handhold in case of tripping.

(d) "Nose, nosing"—That portion of a tread projecting beyond the face of the riser immediately below.

(e) "Platform"—A working space for persons, elevated above the surrounding floor or ground, such as a balcony or platform for the operation of machinery and equipment.

(f) "Runway"—A passageway for persons, elevated above the surrounding floor or ground level, such as a footwalk along shafting or a walkway between buildings.

(g) "Rise"—The vertical distance from the top of a tread to the top of the next higher tread.

(h) "Stair platform"—An extended step or landing breaking a continuous run of stairs.

(i) "Stair railing"—A vertical barrier erected along exposed sides of a stairway to prevent falls of persons.

(j) "Stairs, stairways"—A series of steps leading from one level or floor to another, or leading to platforms, pits, boiler rooms, crossovers, or around machinery, tanks, and other equipment that are used more or less continuously or routinely by employees or only occasionally by specific individuals. For the purpose of this subpart, a series of steps and landings having three or more rises constitutes stairs or stairway.

(k) "Standard railing"—A vertical barrier erected along exposed edges of a floor opening, wall opening, ramp, platform, or runway to prevent falls of persons.

(l) "Standard strength and construction"—Any construction of railings, covers, or other guards that meets the requirements of this subpart.

(m) "Toeboard"—A vertical barrier at floor level erected along exposed edges of a floor opening, wall opening, platform, runway, or ramp to prevent falls of materials.

(n) "Tread width"—The horizontal distance from front to back of tread, including nosing, when used.

(o) "Wall opening"—An opening at least 30 inches high and 18 inches wide, in any wall or partition, through which persons may fall, such as a yard-arm doorway or chute opening.

Subpart N—Cranes, Derricks, Hoists, Elevators, and Conveyors

§ 1926.550 Cranes and derricks.

(a) General requirements. (1) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of any and all cranes and derricks. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a qualified engineer competent in this field and such determinations will be appropriately documented and re-

corded. Attachments used with cranes shall not exceed the capacity, rating, or scope recommended by the manufacturer.

(2) Rated load capacities, and recommended operating speeds, special hazard warnings, or instruction, shall be conspicuously posted on all equipment. Instructions or warnings shall be visible to the operator while he is at his control station.

(3) [Revoked]

(4) Hand signals to crane and derrick operators shall be those prescribed by the applicable ANSI standard for the type of crane in use. An illustration of the signals shall be posted at the job site.

(5) The employer shall designate a competent person who shall inspect all machinery and equipment prior to each use, and during use, to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use.

(6) A thorough, annual inspection of the hoisting machinery shall be made by a competent person, or by a government or private agency recognized by the U.S. Department of Labor. The employer shall maintain a record of the dates and results of inspections for each hoisting machine and piece of equipment.

(7) Wire rope shall be taken out of service when any of the following conditions exist:

(i) In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;

(ii) Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;

(iii) Evidence of any heat damage from any cause;

(iv) Reductions from nominal diameter of more than one-sixty-fourth inch for diameters up to and including five-sixteenths inch, one-thirty-second inch for diameters three-eighths inch to and including one-half inch, three-sixty-fourths inch for diameters nine-sixteenths inch to and including three-fourths inch, one-sixteenth inch for diameters seven-eighths inch to 1½ inches inclusive, three-thirty-seconds inch for diameters 1¼ to 1½ inches inclusive;

(v) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.

(vi) Wire rope safety factors shall be in accordance with American National Standards Institute B 30.5-1968 or SAE J959-1966.

(8) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating, or other moving parts or equipment shall be guarded if such parts are exposed to contact by employees, or otherwise create a hazard. Guarding shall meet the requirements of the American National Standards Institute B 15.1-1958 Rev., Safety Code for Mechanical Power Transmission Apparatus.

(9) Accessible areas within the swing radius of the rear of the rotating super-

structure of the crane, either permanently or temporarily mounted, shall be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane.

(10) All exhaust pipes shall be guarded or insulated in areas where contact by employees is possible in the performance of normal duties.

(11) Whenever internal combustion engine powered equipment exhausts in enclosed spaces, tests shall be made and recorded to see that employees are not exposed to unsafe concentrations of toxic gases or oxygen deficient atmospheres.

(12) All windows in cabs shall be of safety glass, or equivalent, that introduces no visible distortion that will interfere with the safe operation of the machine.

(13) (i) Where necessary for rigging or service requirements, a ladder, or steps, shall be provided to give access to a cab roof.

(ii) Guardrails, handholds, and steps shall be provided on cranes for easy access to the car and cab, conforming to American National Standards Institute B30.5.

(iii) Platforms and walkways shall have anti-skid surfaces.

(14) Fuel tank filler pipe shall be located in such a position, or protected in such manner, as to not allow spill or overflow to run onto the engine, exhaust, or electrical equipment of any machine being fueled.

(i) An accessible fire extinguisher of 5BC rating, or higher, shall be available at all operator stations or cabs of equipment.

(ii) All fuels shall be transported, stored, and handled to meet the rules of Subpart F of this part. When fuel is transported by vehicles on public highways, Department of Transportation rules contained in 49 CFR Parts 177 and 393 concerning such vehicular transportation are considered applicable.

(15) Except where electrical distribution and transmission lines have been de-energized and visibly grounded at point of work or where insulating barriers, not a part of or an attachment to the equipment or machinery, have been erected to prevent physical contact with the lines, equipment or machines shall be operated proximate to power lines only in accordance with the following:

(i) For lines rated 50 kV. or below, minimum clearance between the lines and any part of the crane or load shall be 10 feet;

(ii) For lines rated over 50 kV., minimum clearance between the lines and any part of the crane or load shall be 10 feet plus 0.4 inch for each 1 kV. over 50 kV., or twice the length of the line insulator, but never less than 10 feet;

(iii) In transit with no load and boom lowered, the equipment clearance shall be a minimum of 4 feet for voltages less than 50 kV., and 10 feet for voltages over 50 kV. up to and including 345 kV., and 16 feet for voltages up to and including 750 kV.

(iv) A person shall be designated to observe clearance of the equipment and give timely warning for all operations where it is difficult for the operator to

maintain the desired clearance by visual means;

(v) Cage-type boom guards, insulating links, or proximity warning devices may be used on cranes, but the use of such devices shall not alter the requirements of any other regulation of this part even if such device is required by law or regulation;

(vi) Any overhead wire shall be considered to be an energized line unless and until the person owning such line or the electrical utility authorities indicate that it is not an energized line and it has been visibly grounded;

(vii) Prior to work near transmitter towers where an electrical charge can be induced in the equipment or materials being handled, the transmitter shall be de-energized or tests shall be made to determine if electrical charge is induced on the crane. The following precautions shall be taken when necessary to dissipate induced voltages:

(a) The equipment shall be provided with an electrical ground directly to the upper rotating structure supporting the boom; and

(b) Ground jumper cables shall be attached to materials being handled by boom equipment when electrical charge is induced while working near energized transmitters. Crews shall be provided with nonconductive poles having large alligator clips or other similar protection to attach the ground cable to the load.

(c) Combustible and flammable materials shall be removed from the immediate area prior to operations.

(16) No modifications or additions which affect the capacity or safe operation of the equipment shall be made by the employer without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals, shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(17) The employer shall comply with Power Crane and Shovel Association Mobile Hydraulic Crane Standard No. 2.

(18) Sideboom cranes mounted on wheel or crawler tractors shall meet the requirements of SAE J743a-1964.

(b) *Crawler, locomotive, and truck cranes.* (1) All jibs shall have positive stops to prevent their movement of more than 5° above the straight line of the jib and boom on conventional type crane booms. The use of cable type belly slings does not constitute compliance with this rule.

(2) All crawler, truck, or locomotive cranes in use shall meet the applicable requirements for design, inspection, construction, testing, maintenance and operation as prescribed in the ANSI B30.5-1968, Safety Code for Crawler, Locomotive and Truck Cranes.

(c) *Hammerhead tower cranes.* (1) Adequate clearance shall be maintained between moving and rotating structures of the crane and fixed objects to allow the passage of employees without harm.

(2) Employees required to perform duties on the horizontal boom of hammerhead tower cranes shall be protected against falling by guardrails or by

safety belts and lanyards attached to lifelines in conformance with Subpart E of this part.

(3) Buffers shall be provided at both ends of travel of the trolley.

(4) Cranes mounted on rail tracks shall be equipped with limit switches limiting the travel of the crane on the track and stops or buffers at each end of the tracks.

(5) All hammerhead tower cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed by the manufacturer.

(d) *Overhead and gantry cranes.* (1) The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block, and this marking shall be clearly legible from the ground or floor.

(2) Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the truck wheels.

(3) Except for floor-operated cranes, a gong or other effective audible warning signal shall be provided for each crane equipped with a power traveling mechanism.

(4) All overhead and gantry cranes in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, inspection, and operation as prescribed in the ANSI B30.2.0-1967, Safety Code for Overhead and Gantry Cranes.

(e) *Derricks.* All derricks in use shall meet the applicable requirements for design, construction, installation, inspection, testing, maintenance, and operation as prescribed in American National Standards Institute B30.6-1969, Safety Code for Derricks.

(f) *Floating cranes and derricks—(1) Mobile cranes mounted on barges.* (i) When a mobile crane is mounted on a barge, the rated load of the crane shall not exceed the original capacity specified by the manufacturer.

(ii) A load rating chart, with clearly legible letters and figures, shall be provided with each crane, and securely fixed at a location easily visible to the operator.

(iii) When load ratings are reduced to stay within the limits for list of the barge with a crane mounted on it, a new load rating chart shall be provided.

(iv) Mobile cranes on barges shall be positively secured.

(2) *Permanently mounted floating cranes and derricks.* (i) When cranes and derricks are permanently installed on a barge, the capacity and limitations of use shall be based on competent design criteria.

(ii) A load rating chart with clearly legible letters and figures shall be provided and securely fixed at a location easily visible to the operator.

(iii) Floating cranes and floating derricks in use shall meet the applicable requirements for design, construction, installation, testing, maintenance, and operation as prescribed by the manufacturer.

(3) *Protection of employees working on barges.* The employer shall comply with the applicable requirements for protection of employees working onboard marine vessels specified in § 1926.605.

§ 1926.551 Helicopters.

(a) *Helicopter regulations.* Helicopter cranes shall be expected to comply with any applicable regulations of the Federal Aviation Administration.

(b) *Briefing.* Prior to each day's operation a briefing shall be conducted. This briefing shall set forth the plan of operation for the pilot and ground personnel.

(c) *Slings and tag lines.* Load shall be properly slung. Tag lines shall be of a length that will not permit their being drawn up into rotors. Pressed sleeve, swaged eyes, or equivalent means shall be used for all freely suspended loads to prevent hand splices from spinning open or cable clamps from loosening.

(d) *Cargo hooks.* All electrically operated cargo hooks shall have the electrical activating device so designed and installed as to prevent inadvertent operation. In addition, these cargo hooks shall be equipped with an emergency mechanical control for releasing the load. The hooks shall be tested prior to each day's operation to determine that the release functions properly, both electrically and mechanically.

(e) *Personal protective equipment.* (1) Personal protective equipment for employees receiving the load shall consist of complete eye protection and hard hats secured by chinstraps.

(2) Loose-fitting clothing likely to flap in the downwash, and thus be snagged on hoist line, shall not be worn.

(f) *Loose gear and objects.* Every practical precaution shall be taken to provide for the protection of the employees from flying objects in the rotor downwash. All loose gear within 100 feet of the place of lifting the load, depositing the load, and all other areas susceptible to rotor downwash shall be secured or removed.

(g) *Housekeeping.* Good housekeeping shall be maintained in all helicopter loading and unloading areas.

(h) *Operator responsibility.* The helicopter operator shall be responsible for size, weight, and manner in which loads are connected to the helicopter. If, for any reason, the helicopter operator believes the lift cannot be made safely, the lift shall not be made.

(i) *Hooking and unhooking loads.* When employees are required to perform work under hovering craft, a safe means of access shall be provided for employees to reach the hoist line hook and engage or disengage cargo slings. Employees shall not perform work under hovering craft except when necessary to hook or unhook loads.

(j) *Static charge.* Static charge on the suspended load shall be dissipated with a grounding device before ground personnel touch the suspended load, or protective rubber gloves shall be worn by all ground personnel touching the suspended load.

(k) *Weight limitation.* The weight of an external load shall not exceed the manufacturer's rating.

(l) *Ground lines.* Hoist wires or other gear, except for pulling lines or conductors that are allowed to "pay out" from a container or roll off a reel, shall not be attached to any fixed ground structure, or allowed to foul on any fixed structure.

(m) *Visibility.* When visibility is reduced by dust or other conditions, ground personnel shall exercise special caution to keep clear of main and stabilizing rotors. Precautions shall also be taken by the employer to eliminate as far as practical reduced visibility.

(n) *Signal systems.* Signal systems between aircrew and ground personnel shall be understood and checked in advance of hoisting the load. This applies to either radio or hand signal systems. Hand

signals shall be as shown in Figure N-1.

(o) *Approach distance.* No unauthorized person shall be allowed to approach within 50 feet of the helicopter when the rotor blades are turning.

(p) *Approaching helicopter.* Whenever approaching or leaving a helicopter with blades rotating, all employees shall remain in full view of the pilot and keep in a crouched position. Employees shall avoid the area from the cockpit or cabin rearward unless authorized by the helicopter operator to work there.

(q) *Personnel.* Sufficient ground personnel shall be provided when required for safe helicopter loading and unloading operations.

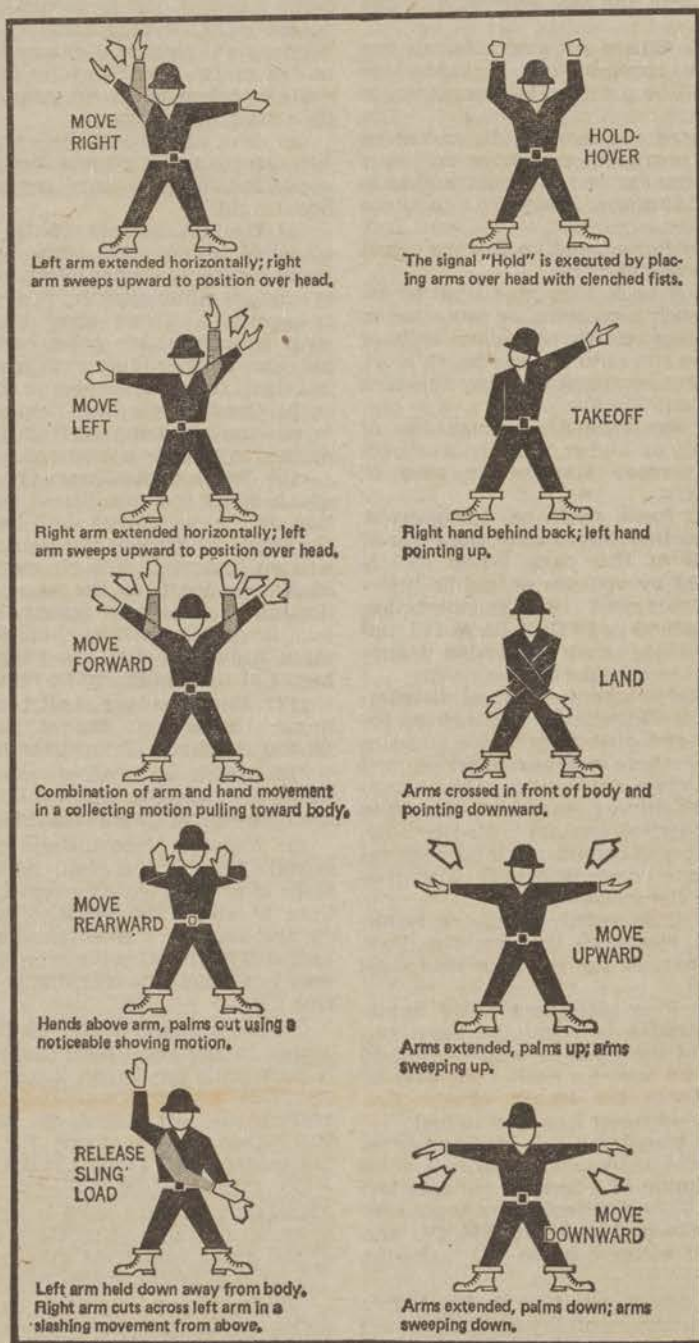


FIGURE N-1 HELICOPTER HAND SIGNAL

(r) *Communications.* There shall be constant reliable communication between the pilot, and a designated employee of the ground crew who acts as a signalman during the period of loading and unloading. This signalman shall be distinctly recognizable from other ground personnel.

(s) *Fires.* Open fires shall not be permitted in an area that could result in such fires being spread by the rotor downwash.

§ 1926.552 Material hoists, personnel hoists, and elevators.

(a) *General requirements.* (1) The employer shall comply with the manufacturer's specifications and limitations applicable to the operation of all hoists and elevators. Where manufacturer's specifications are not available, the limitations assigned to the equipment shall be based on the determinations of a professional engineer competent in the field.

(2) Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be posted on cars and platforms.

(3) Wire rope shall be removed from service when any of the following conditions exists:

(i) In hoisting ropes, six randomly distributed broken wires in one rope lay or three broken wires in one strand in one rope lay;

(ii) Abrasion, scrubbing, flattening, or peening, causing loss of more than one-third of the original diameter of the outside wires;

(iii) Evidence of any heat damage resulting from a torch or any damage caused by contact with electrical wires;

(iv) Reduction from nominal diameter of more than three sixty-fourths inch for diameters up to and including three-fourths inch; one-sixteenth inch for diameters seven-eighths to 1½ inches; and three thirty-seconds inch for diameters 1½ to 1½ inches.

(4) Hoisting ropes shall be installed in accordance with the wire rope manufacturer's recommendations.

(5) The installation of live booms on hoists is prohibited.

(6) The use of endless belt-type manlifts on construction shall be prohibited.

(b) *Material hoists.* (1) (i) Operating rules shall be established and posted at the operator's station of the hoist. Such rules shall include signal system and allowable line speed for various loads. Rules and notices shall be posted on the car frame or crosshead in a conspicuous location, including the statement "No Riders Allowed."

(ii) No person shall be allowed to ride on material hoists except for the purposes of inspection and maintenance.

(2) All entrances of the hoistways shall be protected by substantial gates or bars which shall guard the full width of the landing entrance. All hoistway entrance bars and gates shall be painted with diagonal contrasting colors, such as black and yellow stripes.

(i) Bars shall be not less than 2- by 4-inch wooden bars or the equivalent, located 2 feet from the hoistway line. Bars shall be located not less than 36

inches nor more than 42 inches above the floor.

(ii) Gates or bars protecting the entrances to hoistways shall be equipped with a latching device.

(3) Overhead protective covering of 2-inch planking, ¾-inch plywood, or other solid material of equivalent strength, shall be provided on the top of every material hoist cage or platform.

(4) The operator's station of a hoisting machine shall be provided with overhead protection equivalent to tight planking not less than 2 inches thick. The support for the overhead protection shall be of equal strength.

(5) Hoist towers may be used with or without an enclosure on all sides. However, whichever alternative is chosen, the following applicable conditions shall be met:

(i) When a hoist tower is enclosed, it shall be enclosed on all sides for its entire height with a screen enclosure of ½-inch mesh, No. 18 U.S. gauge wire or equivalent, except for landing access.

(ii) When a hoist tower is not enclosed, the hoist platform or car shall be totally enclosed (caged) on all sides for the full height between the floor and the overhead protective covering with ½-inch mesh of No. 14 U.S. gauge wire or equivalent. The hoist platform enclosure shall include the required gates for loading and unloading. A 6-foot high enclosure shall be provided on the unused sides of the hoist tower at ground level.

(6) Car arresting devices shall be installed to function in case of rope failure.

(7) All material hoist towers shall be designed by a licensed professional engineer.

(8) All material hoists shall conform to the requirements of ANSI A10.5-1969, *Safety Requirements for Material Hoists.*

(c) *Personnel hoists.* (1) Hoist towers outside the structure shall be enclosed for the full height on the side or sides used for entrance and exit to the structure. At the lowest landing, the enclosure on the sides not used for exit or entrance to the structure shall be enclosed to a height of at least 10 feet. Other sides of the tower adjacent to floors or scaffold platforms shall be enclosed to a height of 10 feet above the level of such floors or scaffolds.

(2) Towers inside of structures shall be enclosed on all four sides throughout the full height.

(3) Towers shall be anchored to the structure at intervals not exceeding 25 feet. In addition to tie-ins, a series of guys shall be installed. Where tie-ins are not practical the tower shall be anchored by means of guys made of wire rope at least one-half inch in diameter, securely fastened to anchorage to ensure stability.

(4) Hoistway doors or gates shall be not less than 6 feet 6 inches high and shall be provided with mechanical locks which cannot be operated from the landing side, and shall be accessible only to persons on the car.

(5) Cars shall be permanently enclosed on all sides and the top, except

sides used for entrance and exit which have car gates or doors.

(6) A door or gate shall be provided at each entrance to the car which shall protect the full width and height of the car entrance opening.

(7) Overhead protective covering of 2-inch planking, ¾-inch plywood or other solid material of equivalent strength shall be provided on the top of every personnel hoist.

(8) Doors or gates shall be provided with electric contacts which do not allow movement of the hoist when door or gate is open.

(9) Safeties shall be capable of stopping and holding the car and rated load when traveling at governor tripping speed.

(10) Cars shall be provided with a capacity and data plate secured in a conspicuous place on the car or crosshead.

(11) Internal combustion engines shall not be permitted for direct drive.

(12) Normal and final terminal stopping devices shall be provided.

(13) An emergency stop switch shall be provided in the car and marked "Stop."

(14) Ropes: (i) The minimum number of hoisting ropes used shall be three for traction hoists and two for drum-type hoists.

(ii) The minimum diameter of hoisting and counterweight wire ropes shall be ½-inch.

(iii) Safety factors:

MINIMUM FACTORS OF SAFETY FOR SUSPENSION WIRE ROPES

Rope speed in feet per minute:	Minimum factor of safety
50	7.60
75	7.75
100	7.95
125	8.10
150	8.25
175	8.40
200	8.60
225	8.75
250	8.90
300	9.20
350	9.50
400	9.75
450	10.00
500	10.25
550	10.45
600	10.70

(15) Following assembly and erection of hoists, and before being put in service, an inspection and test of all functions and safety devices shall be made under the supervision of a competent person. A similar inspection and test is required following major alteration of an existing installation. All hoists shall be inspected and tested at not more than 3-month intervals. Records shall be maintained and kept on file for the duration of the job.

(16) All personnel hoists used by employees shall be constructed of materials and components which meet the specifications for materials, construction, safety devices, assembly, and structural integrity as stated in the American National Standard A10.4-1963, *Safety Requirements for Workmen's Hoists.* The requirements of this subparagraph (16)

do not apply to cantilever type personnel hoists.

(17) (i) Personnel hoists used in bridge tower construction shall be approved by a registered professional engineer and erected under the supervision of a qualified engineer competent in this field.

(ii) When a hoist tower is not enclosed, the hoist platform or car shall be totally enclosed (caged) on all sides for the full height between the floor and the overhead protective covering with $\frac{3}{4}$ -inch mesh of No. 14 U.S. gauge wire or equivalent. The hoist platform enclosure shall include the required gates for loading and unloading.

(iii) These hoists shall be inspected and maintained on a weekly basis. Whenever the hoisting equipment is exposed to winds exceeding 35 miles per hour it shall be inspected and put in operable condition before reuse.

(iv) Wire rope shall be taken out of service when any of the following conditions exist:

(a) In running ropes, six randomly distributed broken wires in one lay or three broken wires in one strand in one lay;

(b) Wear of one-third the original diameter of outside individual wires. Kinking, crushing, bird caging, or any other damage resulting in distortion of the rope structure;

(c) Evidence of any heat damage from any cause;

(d) Reductions from nominal diameter of more than three-sixty-fourths inch for diameters to and including three-fourths inch, one sixteenth inch for diameters seven-eighths inch to $1\frac{1}{2}$ inches inclusive, three-thirty-seconds inch for diameters $1\frac{1}{4}$ to $1\frac{1}{2}$ inches inclusive;

(e) In standing ropes, more than two broken wires in one lay in sections beyond end connections or more than one broken wire at an end connection.

(d) Permanent elevators under the care and custody of the employer and used by employees for work covered by this Act shall comply with the requirements of American National Standards Institute A17.1-1965 with addenda A17.1a-1967, A17.1b-1968, A17.1c-1969, A17.1d-1970, and inspected in accordance with A17.2-1960 with addenda A17.2a-1965, A17.2b-1967.

§ 1926.553 Base-mounted drum hoists.

(a) *General requirements.* (1) Exposed moving parts such as gears, projecting screws, setscrews, chain, cables, chain sprockets, and reciprocating or rotating parts, which constitute a hazard, shall be guarded.

(2) All controls used during the normal operation cycle shall be located within easy reach of the operator's station.

(3) Electric motor operated hoists shall be provided with:

(i) A device to disconnect all motors from the line upon power failure and not permit any motor to be restarted until the controller handle is brought to the "off" position;

(ii) Where applicable, an overspeed preventive device;

(iii) A means whereby remotely operated hoists stop when any control is ineffective.

(4) All base-mounted drum hoists in use shall meet the applicable requirements for design, construction, installation, testing, inspection, maintenance, and operations, as prescribed by the manufacturer.

(b) *Specific requirements.* [Reserved]

§ 1926.554 Overhead hoists.

(a) *General requirements.* (1) The safe working load of the overhead hoist, as determined by the manufacturer, shall be indicated on the hoist, and this safe working load shall not be exceeded.

(2) The supporting structure to which the hoist is attached shall have a safe working load equal to that of the hoist.

(3) The support shall be arranged so as to provide for free movement of the hoist and shall not restrict the hoist from lining itself up with the load.

(4) The hoist shall be installed only in locations that will permit the operator to stand clear of the load at all times.

(5) Air hoists shall be connected to an air supply of sufficient capacity and pressure to safely operate the hoist. All air hoses supplying air shall be positively connected to prevent their becoming disconnected during use.

(6) All overhead hoists in use shall meet the applicable requirements for construction, design, installation, testing, inspection, maintenance, and operation, as prescribed by the manufacturer.

(b) *Specific requirements.* [Reserved]

§ 1926.555 Conveyors.

(a) *General requirements.* (1) Means for stopping the motor or engine shall be provided at the operator's station. Conveyor systems shall be equipped with an audible warning signal to be sounded immediately before starting up the conveyor.

(2) If the operator's station is at a remote point, similar provisions for stopping the motor or engine shall be provided at the motor or engine location.

(3) Emergency stop switches shall be arranged so that the conveyor cannot be started again until the actuating stop switch has been reset to running or "On" position.

(4) Screw conveyors shall be guarded to prevent employee contact with turning flights.

(5) Where a conveyor passes over work areas, aisles, or thoroughfares, suitable guards shall be provided to protect employees required to work below the conveyors.

(6) All crossovers, aisles, and passageways shall be conspicuously marked by suitable signs, as required by Subpart G of this part.

(7) Conveyors shall be locked out or otherwise rendered inoperable, and tagged out with a "Do Not Operate" tag during repairs and when operation is hazardous to employees performing maintenance work.

(8) All conveyors in use shall meet the applicable requirements for design, construction, inspection, testing, maintenance,

and operation, as prescribed in the ANSI B20.1-1957, Safety Code for Conveyors, Cableways, and Related Equipment.

§ 1926.556 Aerial lifts.

(a) *General requirements.* (1) Unless otherwise provided in this section, aerial lifts acquired for use on or after the effective date of this section shall be designed and constructed in conformance with the applicable requirements of the American National Standard for "Vehicle Mounted Elevating and Rotating Work Platforms," ANSI A92.2-1969, including appendix. Aerial lifts acquired before the effective date of this section, which do not meet the requirements of ANSI A92.2-1969, may not be used after January 1, 1976, unless they shall have been modified so as to conform with the applicable design and construction requirements of ANSI A92.2-1969. Aerial lifts include the following types of vehicle-mounted aerial devices used to elevate personnel to jobsites above ground: (i) Extensible boom platforms, (ii) aerial ladders, (iii) articulating boom platforms, (iv) vertical towers, and (v) a combination of any of the above. Aerial equipment may be made of metal, wood, fiberglass reinforced plastic (FRP), or other material; may be powered or manually operated; and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

(2) Aerial lifts may be "field modified" for uses other than those intended by the manufacturer provided the modification has been certified in writing by the manufacturer or by any other equivalent entity, such as a nationally recognized testing laboratory, to be in conformity with all applicable provisions of ANSI A92.2-1969 and this section and to be at least as safe as the equipment was before modification.

(b) *Specific requirements.* (1) *Ladder trucks and tower trucks.* Aerial ladders shall be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

(2) *Extensible and articulating boom platforms.* (i) Lift controls shall be tested each day prior to use to determine that such controls are in safe working condition.

(ii) Only authorized persons shall operate an aerial lift.

(iii) Belting off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.

(iv) Employees shall always stand firmly on the floor of the basket, and shall not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.

(v) A body belt shall be worn and a lanyard attached to the boom or basket when working from an aerial lift.

(vi) Boom and basket load limits specified by the manufacturer shall not be exceeded.

(vii) The brakes shall be set and when outriggers are used, they shall be posi-

tioned on pads or a solid surface. Wheel chocks shall be installed before using an aerial lift on an incline, provided they can be safely installed.

(viii) An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation in accordance with the provisions of subparagraphs (1) and (2) of paragraph (a) of this section.

(ix) Articulating boom and extensible boom platforms, primarily designed as personnel carriers, shall have both platform (upper) and lower controls. Upper controls shall be in or beside the platform within easy reach of the operator. Lower controls shall provide for overriding the upper controls. Controls shall be plainly marked as to their function. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

(x) Climbers shall not be worn while performing work from an aerial lift.

(xi) The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.

(xii) Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position except as provided in subdivision (viii) of this subparagraph.

(3) *Electrical tests.* All electrical tests shall conform to the requirements of ANSI A92.2-1969 section 5. However equivalent d.c. voltage tests may be used in lieu of the a.c. voltage specified in A92.2-1969; d.c. voltage tests which are approved by the equipment manufacturer or equivalent entity shall be considered an equivalent test for the purpose of this subparagraph (3).

(4) *Bursting safety factor.* The provisions of the American National Standards Institute standard ANSI A92.2-1969, section 4.9 Bursting Safety Factor shall apply to all critical hydraulic and pneumatic components. Critical components are those in which a failure would result in a free fall or free rotation of the boom. All noncritical components shall have a bursting safety factor of at least 2 to 1.

(5) *Welding standards.* All welding shall conform to the following standards as applicable:

(i) Standard Qualification Procedure, AWS B3.0-41.

(ii) Recommended Practices for Automotive Welding Design, AWS D8.4-61.

(iii) Standard Qualification of Welding Procedures and Welders for Piping and Tubing, AWS D10.9-69.

(iv) Specifications for Welding Highway and Railway Bridges, AWS D2.0-69.

Subpart O—Motor Vehicles, Mechanized Equipment, and Marine Operations

§ 1926.600 Equipment.

(a) *General requirements.* (1) All equipment left unattended at night, ad-

jacent to a highway in normal use, or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, to identify the location of the equipment.

(2) A safety tire rack, cage, or equivalent protection shall be provided and used when inflating, mounting, or dismounting tires installed on split rims, or rims equipped with locking rings or similar devices.

(3) (i) Heavy machinery, equipment, or parts thereof, which are suspended or held aloft by use of slings, hoists, or jacks shall be substantially blocked or cribbed to prevent falling or shifting before employees are permitted to work under or between them. Bulldozer and scraper blades, end-loader buckets, dump bodies, and similar equipment, shall be either fully lowered or blocked when being repaired or when not in use. All controls shall be in a neutral position, with the motors stopped and brakes set, unless work being performed requires otherwise.

(ii) Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

(4) The use, care and charging of all batteries shall conform to the requirements of Subpart K of this part.

(5) All cab glass shall be safety glass, or equivalent, that introduces no visible distortion affecting the safe operation of any machine covered by this subpart.

(6) All equipment covered by this subpart shall comply with the requirements of § 1518.550(a)(15) when working or being moved in the vicinity of power lines or energized transmitters.

(b) *Specific requirements.* [Reserved]

§ 1926.601 Motor vehicles.

(a) *Coverage.* Motor vehicles as covered by this part are those vehicles that operate within an off-highway jobsite, not open to public traffic. The requirements of this section do not apply to equipment for which rules are prescribed in § 1926.602.

(b) *General requirements.* (1) All vehicles shall have a service brake system, an emergency brake system, and a parking brake system. These systems may use common components, and shall be maintained in operable condition.

(2) (i) Whenever visibility conditions warrant additional light, all vehicles, or combinations of vehicles, in use shall be equipped with at least two headlights and two taillights in operable condition.

(ii) All vehicles, or combination of vehicles, shall have brake lights in operable condition regardless of light conditions.

(3) All vehicles shall be equipped with an adequate audible warning device at the operator's station and in an operable condition.

(4) No employer shall use any motor vehicle equipment having an obstructed view to the rear unless:

(1) The vehicle has a reverse signal alarm audible above the surrounding noise level or:

(ii) The vehicle is backed up only when an observer signals that it is safe to do so.

(5) All vehicles with cabs shall be equipped with windshields and powered wipers. Cracked and broken glass shall be replaced. Vehicles operating in areas or under conditions that cause fogging or frosting of the windshields shall be equipped with operable defogging or defrosting devices.

(6) All haulage vehicles, whose payload is loaded by means of cranes, power shovels, loaders, or similar equipment, shall have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.

(7) Tools and material shall be secured to prevent movement when transported in the same compartment with employees.

(8) Vehicles used to transport employees shall have seats firmly secured and adequate for the number of employees to be carried.

(9) Seat belts and anchorages meeting the requirements of 49 CFR Part 571 (Department of Transportation, Federal Motor Vehicle Safety Standards) shall be installed in all motor vehicles.

(10) Trucks with dump bodies shall be equipped with positive means of support, permanently attached, and capable of being locked in position to prevent accidental lowering of the body while maintenance or inspection work is being done.

(11) Operating levers controlling hoisting or dumping devices on haulage bodies shall be equipped with a latch or other device which will prevent accidental starting or tripping of the mechanism.

(12) Trip handles for tailgates of dump trucks shall be so arranged that, in dumping, the operator will be in the clear.

(13) (i) All rubber-tired motor vehicle equipment manufactured on or after May 1, 1972, shall be equipped with fenders. All rubber-tired motor vehicle equipment manufactured before May 1, 1972, shall be equipped with fenders not later than May 1, 1973.

(ii) Mud flaps may be used in lieu of fenders whenever motor vehicle equipment is not designed for fenders.

(14) All vehicles in use shall be checked at the beginning of each shift to assure that the following parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use: service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brakes); tires; horn; steering mechanism; coupling devices; seat belts; operating controls; and safety devices. All defects shall be corrected before the vehicle is placed in service. These requirements also apply to equipment such as lights, reflectors, windshield

wipers, defrosters, fire extinguishers, etc., where such equipment is necessary.

§ 1926.602 Material handling equipment.

(a) *Earthmoving equipment; General*
(1) These rules apply to the following types of earthmoving equipment: scrapers, loaders, crawler or wheel tractors, bulldozers, off-highway trucks, graders, agricultural and industrial tractors, and similar equipment. The promulgation of specific rules for compactors and rubber-tired "skid-steer" equipment is reserved pending consideration of standards currently being developed.

(2) *Seat belts.* (i) Seat belts shall be provided on all equipment covered by this section and shall meet the requirements of the Society of Automotive Engineers, J386-1969, Seat Belts for Construction Equipment. Seat belts for agricultural and light industrial tractors shall meet the seat belt requirements of Society of Automotive Engineers J333a-1970, Operator Protection for Agricultural and Light Industrial Tractors.

(ii) Seat belts need not be provided for equipment which is designed only for standup operation.

(iii) Seat belts need not be provided for equipment which does not have rollover protective structure (ROPS) or adequate canopy protection.

(3) *Access roadways and grades.* (i) No employer shall move or cause to be moved construction equipment or vehicles upon any access roadway or grade unless the access roadway or grade is constructed and maintained to accommodate safely the movement of the equipment and vehicles involved.

(ii) Every emergency access ramp and berm used by an employer shall be constructed to restrain and control runaway vehicles.

(4) *Brakes.* All earthmoving equipment mentioned in this § 1926.602(a) shall have a service braking system capable of stopping and holding the equipment fully loaded, as specified in Society of Automotive Engineers SAE-J237, Loader Dozer-1971, J236, Graders-1971, and J319b, Scrapers-1971. Brake systems for self-propelled rubber-tired off-highway equipment manufactured after January 1, 1972 shall meet the applicable minimum performance criteria set forth in the following Society of Automotive Engineers Recommended Practices:

Self-Propelled	
Scrapers	SAE J319b-1971
Self-Propelled	
Graders	SAE J236-1971
Trucks and	
Wagons	SAE J186-1971
Front End	
Loaders and	
Dozers	SAE J237-1971

(5) *Fenders.* Pneumatic-tired earthmoving haulage equipment (trucks, scrapers, tractors, and trailing units) whose maximum speed exceeds 15 miles per hour, shall be equipped with fenders on all wheels to meet the requirements of Society of Automotive Engineers SAE J321a-1970, Fenders for Pneumatic-

Tired Earthmoving Haulage Equipment. An employer may, of course, at any time seek to show under § 1926.2, that the uncovered wheels present no hazard to personnel from flying materials.

(6) *Rollover protective structures (ROPS).* See Subpart W of this part for requirements for rollover protective structures and overhead protection.

(7) *Rollover protective structures for off-highway trucks.* The promulgation of standards for rollover protective structures for off-highway trucks is reserved pending further study and development.

(8) *Specific effective dates—brakes and fenders.* (i) Equipment mentioned in paragraph (a) (4) and (5) of this section, and manufactured after January 1, 1972, which is used by any employer after that date, shall comply with the applicable rules prescribed therein concerning brakes and fenders. Equipment mentioned in paragraph (a) (4) and (5) of this section, and manufactured before January 1, 1972, which is used by any employer after that date, shall meet the applicable rules prescribed herein not later than June 30, 1973. It should be noted that, as permitted under § 1926.2, employers may request variations from the applicable brakes and fender standards required by this subpart. Employers wishing to seek variations from the applicable brakes and fenders rules may submit any requests for variations after the publication of this document in the FEDERAL REGISTER. Any statements intending to meet the requirements of § 1926.2(b) (4), should specify how the variation would protect the safety of the employees by providing for any compensating restrictions on the operation of equipment.

(ii) Notwithstanding the provisions of paragraphs (a) (5) and (a) (8) (i) of this section, the requirement that fenders be installed on pneumatic-tired earthmoving haulage equipment, is suspended pending reconsideration of the requirement.

(9) *Audible alarms.* (i) All bidirectional machines, such as rollers, compactors, front-end loaders, bulldozers, and similar equipment, shall be equipped with a horn, distinguishable from the surrounding noise level, which shall be operated as needed when the machine is moving in either direction. The horn shall be maintained in an operative condition.

(ii) No employer shall permit earthmoving or compacting equipment which has an obstructed view to the rear to be used in reverse gear unless the equipment has in operation a reverse signal alarm distinguishable from the surrounding noise level or an employee signals that it is safe to do so.

(10) *Scissor points.* Scissor points on all front-end loaders, which constitute a hazard to the operator during normal operation, shall be guarded.

(b) *Excavating and other equipment.* (1) Tractors covered in paragraph (a) of this section shall have seat belts as required for the operators when seated in the normal seating arrangement for tractor operation, even though back-

hoes, breakers, or other similar attachments are used on these machines for excavating or other work.

(2) For the purposes of this subpart and of Subpart N of this part, the nomenclatures and descriptions for measurement of dimensions of machinery and attachments shall be as described in Society of Automotive Engineers 1970 Handbook, pages 1088 through 1103.

(3) The safety requirements, ratios, or limitations applicable to machines or attachment usage covered in Power Crane and Shovel Associations Standards No. 1 and No. 2 of 1968, and No. 3 of 1969, shall be complied with, and shall apply to cranes, machines, and attachments under this part.

(c) *Lifting and hauling equipment (other than equipment covered under Subpart N of this part).* (1) Industrial trucks shall meet the requirements of § 1926.600 and the following:

(i) Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle so as to be clearly visible to the operator. When auxiliary removable counterweights are provided by the manufacturer, corresponding alternate rated capacities also shall be clearly shown on the vehicle. These ratings shall not be exceeded.

(ii) No modifications or additions which affect the capacity or safe operation of the equipment shall be made without the manufacturer's written approval. If such modifications or changes are made, the capacity, operation, and maintenance instruction plates, tags, or decals shall be changed accordingly. In no case shall the original safety factor of the equipment be reduced.

(iii) If a load is lifted by two or more trucks working in unison, the proportion of the total load carried by any one truck shall not exceed its capacity.

(iv) Steering or spinner knobs shall not be attached to the steering wheel unless the steering mechanism is of a type that prevents road reactions from causing the steering handwheel to spin. The steering knob shall be mounted within the periphery of the wheel.

(v) All high lift rider industrial trucks shall be equipped with overhead guards which meet the configuration and structural requirements as defined in paragraph 421 of American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

(vi) All industrial trucks in use shall meet the applicable requirements of design, construction, stability, inspection, testing, maintenance, and operation, as defined in American National Standards Institute B56.1-1969, Safety Standards for Powered Industrial Trucks.

(Sec. 6, Pub. L. 91-596, 84 Stat. 1593 (29 U.S.C. 655)) [37 FR 27503, Dec. 16, 1972, as amended at 38 FR 16856, June 27, 1973]

§ 1926.603 Pile driving equipment.

(a) *General requirements.* (1) Boilers and piping systems which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Power Boilers (section I).

(2) All pressure vessels which are a part of, or used with, pile driving equipment shall meet the applicable requirements of the American Society of Mechanical Engineers, Pressure Vessels (section VIII).

(3) Overhead protection, which will not obscure the vision of the operator and which meets the requirements of Subpart N of this part, shall be provided. Protection shall be the equivalent of 2-inch planking or other solid material of equivalent strength.

(4) Stop blocks shall be provided for the leads to prevent the hammer from being raised against the head block.

(5) A blocking device, capable of safely supporting the weight of the hammer, shall be provided for placement in the leads under the hammer at all times while employees are working under the hammer.

(6) Guards shall be provided across the top of the head block to prevent the cable from jumping out of the sheaves.

(7) When the leads must be inclined in the driving of batter piles, provisions shall be made to stabilize the leads.

(8) Fixed leads shall be provided with ladder, and adequate rings, or similar attachment points, so that the loft worker may engage his safety belt lanyard to the leads. If the leads are provided with loft platform(s), such platform(s) shall be protected by standard guardrails.

(9) Steam hose leading to a steam hammer or jet pipe shall be securely attached to the hammer with an adequate length of at least 1/4-inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken. Air hammer hoses shall be provided with the same protection as required for steam lines.

(10) Safety chains, or equivalent means, shall be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.

(11) Steam line controls shall consist of two shutoff valves, one of which shall be a quick-acting lever type within easy reach of the hammer operator.

(12) Guys, outriggers, thrustouts, or counterbalances shall be provided as necessary to maintain stability of pile driver rigs.

(b) *Pile driving from barges and floats.* Barges or floats supporting pile driving operations shall meet the applicable requirements of § 1926.605.

(c) *Pile driving equipment.* (1) Engineers and winchmen shall accept signals only from the designated signalmen.

(2) All employees shall be kept clear when piling is being hoisted into the leads.

(3) When piles are being driven in an excavated pit, the walls of the pit shall be sloped to the angle of repose or sheet-piled and braced.

(4) When steel tube piles are being "blown out", employees shall be kept well beyond the range of falling materials.

(5) When it is necessary to cut off the tops of driven piles, pile driving operations shall be suspended except where the cutting operations are located at

least twice the length of the longest pile from the driver.

(6) When driving jacked piles, all access pits shall be provided with ladders and bulkheaded curbs to prevent material from falling into the pit.

§ 1926.604 Site clearing.

(a) *General requirements.* (1) Employees engaged in site clearing shall be protected from hazards of irritant and toxic plants and suitably instructed in the first aid treatment available.

(2) All equipment used in site clearing operations shall be equipped with rollover guards meeting the requirements of this subpart. In addition, rider-operated equipment shall be equipped with an overhead and rear canopy guard meeting the following requirements:

(i) The overhead covering on this canopy structure shall be of not less than 1/8-inch steel plate or 1/4-inch woven wire mesh with openings no greater than 1 inch, or equivalent.

(ii) The opening in the rear of the canopy structure shall be covered with not less than 1/4-inch woven wire mesh with openings no greater than 1 inch.

(b) *Specific requirements.* [Reserved]

§ 1926.605 Marine operations and equipment.

(a) *Material handling operations.* (1) Operations fitting the definition of "material handling" shall be performed in conformance with applicable requirements of Part 1918, "Safety and Health Regulations for Longshoring" of this chapter. The term "longshoring operations" means the loading, unloading, moving, or handling of construction materials, equipment and supplies, etc. into, in, on, or out of any vessel from a fixed structure or shore-to-vessel, vessel-to-shore or fixed structure or vessel-to-vessel.

(b) *Access to barges.* (1) Ramps for access of vehicles to or between barges shall be of adequate strength, provided with side boards, well maintained, and properly secured.

(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp, meeting the requirements of subparagraph (1) of this paragraph, or a safe walkway, shall be provided.

(3) Jacob's ladders shall be of the double rung or flat tread type. They shall be well maintained and properly secured.

(4) A Jacob's ladder shall either hang without slack from its lashings or be pulled up entirely.

(5) When the upper end of the means of access rests on or is flush with the top of the bulwark, substantial steps, properly secured and equipped with at least one substantial hand rail approximately 33 inches in height, shall be provided between the top of the bulwark and the deck.

(6) Obstructions shall not be laid on or across the gangway.

(7) The means of access shall be adequately illuminated for its full length.

(8) Unless the structure makes it impossible, the means of access shall be so located that the load will not pass over employees.

(c) *Working surfaces of barges.* (1) Employees shall not be permitted to walk along the sides of covered lighters or barges with coamings more than 5 feet high, unless there is a 3-foot clear walkway, or a grab rail, or a taut handline is provided.

(2) Decks and other working surfaces shall be maintained in a safe condition.

(3) Employees shall not be permitted to pass fore and aft, over, or around deckloads, unless there is a safe passage.

(4) Employees shall not be permitted to walk over deckloads from rail to coaming unless there is a safe passage. If it is necessary to stand at the outboard or inboard edge of the deckload where less than 24 inches of bulwark, rail, coaming, or other protection exists, all employees shall be provided with a suitable means of protection against falling from the deckload.

(d) *First-aid and lifesaving equipment.* (1) Provisions for rendering first aid and medical assistance shall be in accordance with Subpart D of this part.

(2) The employer shall ensure that there is in the vicinity of each barge in use at least one U.S. Coast Guard-approved 30-inch lifeline with not less than 90 feet of line attached, and at least one portable or permanent ladder which will reach the top of the apron to the surface of the water. If the above equipment is not available at the pier, the employer shall furnish it during the time that he is working the barge.

(3) Employees walking or working on the unguarded decks of barges shall be protected with U.S. Coast Guard-approved work vests or buoyant vests.

(e) *Diving operations.* [Reserved]

§ 1926.606 Definitions applicable to this subpart.

(a) "Apron"—The area along the waterfront edge of the pier or wharf.

(b) "Bulwark"—The side of a ship above the upper deck.

(c) "Coaming"—The raised frame, as around a hatchway in the deck, to keep out water.

(d) "Jacob's ladder"—A marine ladder of rope or chain with wooden or metal rungs.

(e) "Rail", for the purpose of § 1926.605, means a light structure serving as a guard at the outer edge of a ship's deck.

Subpart P—Excavations, Trenching, and Shoring

§ 1926.650 General protection requirements.

(a) Walkways, runways, and sidewalks shall be kept clear of excavated material or other obstructions and no sidewalks shall be undermined unless shored to carry a minimum live load of one hundred and twenty-five (125) pounds per square foot.

(b) If planks are used for raised walkways, runways, or sidewalks, they shall be laid parallel to the length of the walk and fastened together against displacement.

(c) Planks shall be uniform in thickness and all exposed ends shall be pro-

vided with beveled cleats to prevent tripping.

(d) Raised walkways, runways, and sidewalks shall be provided with plank steps on strong stringers. Ramps, used in lieu of steps, shall be provided with cleats to insure a safe walking surface.

(e) All employees shall be protected with personal protective equipment for the protection of the head, eyes, respiratory organs, hands, feet, and other parts of the body as set forth in Subpart E of this part.

(f) Employees exposed to vehicular traffic shall be provided with and shall be instructed to wear warning vests marked with or made of reflectorized or high visibility material.

(g) Employees subjected to hazardous dusts, gases, fumes, mists, or atmospheres deficient in oxygen, shall be protected with approved respiratory protection as set forth in Subpart D of this part.

(h) No person shall be permitted under loads handled by power shovels, derricks, or hoists. To avoid any spillage employees shall be required to stand away from any vehicle being loaded.

(i) Daily inspections of excavations shall be made by a competent person. If evidence of possible cave-ins or slides is apparent, all work in the excavation shall cease until the necessary precautions have been taken to safeguard the employees.

§ 1926.651 Specific excavation requirements.

(a) Prior to opening an excavation, effort shall be made to determine whether underground installations; i.e., sewer, telephone, water, fuel, electric lines, etc., will be encountered, and if so, where such underground installations are located. When the excavation approaches the estimated location of such an installation, the exact location shall be determined and when it is uncovered, proper supports shall be provided for the existing installation. Utility companies shall be contacted and advised of proposed work prior to the start of actual excavation.

(b) Trees, boulders, and other surface encumbrances, located so as to create a hazard to employees involved in excavation work or in the vicinity thereof at any time during operations, shall be removed or made safe before excavating is begun.

(c) The walls and faces of all excavations in which employees are exposed to danger from moving ground shall be guarded by a shoring system, sloping of the ground, or some other equivalent means.

(d) Excavations shall be inspected by a competent person after every rainstorm or other hazard-increasing occurrence, and the protection against slides and cave-ins shall be increased if necessary.

(e) The determination of the angle of repose and design of the supporting system shall be based on careful evaluation of pertinent factors such as: Depth of cut; possible variation in water content of the material while the excavation is open; anticipated changes in materials from exposure to air, sun, water, or freezing;

loading imposed by structures, equipment, overlying material, or stored material; and vibration from equipment, blasting, traffic, or other sources.

(f) Supporting systems; i.e., piling, cribbing, shoring, etc., shall be designed by a qualified person and meet accepted engineering requirements. When tie rods are used to restrain the top of sheeting or other retaining systems, the rods shall be securely anchored well back of the angle of repose. When tight sheeting or sheet piling is used, full loading due to ground water table shall be assumed, unless prevented by weep holes or drains or other means. Additional stringers, ties, and bracing shall be provided to allow for any necessary temporary removal of individual supports.

(g) All slopes shall be excavated to at least the angle of repose except for areas where solid rock allows for line drilling or presplitting.

(h) The angle of repose shall be flattened when an excavation has water conditions, silty materials, loose boulders, and areas where erosion, deep frost action, and slide planes appear.

(i) (1) In excavations which employees may be required to enter, excavated or other material shall be effectively stored and retained at least 2 feet or more from the edge of the excavation.

(2) As an alternative to the clearance prescribed in subparagraph (1) of this paragraph, the employer may use effective barriers or other effective retaining devices in lieu thereof in order to prevent excavated or other materials from falling into the excavation.

(j) Sides, slopes, and faces of all excavations shall meet accepted engineering requirements by scaling, benching, barricading, rock bolting, wire meshing, or other equally effective means. Special attention shall be given to slopes which may be adversely affected by weather or moisture content.

(k) Support systems shall be planned and designed by a qualified person when excavation is in excess of 20 feet in depth, adjacent to structures or improvements, or subject to vibration or ground water.

(l) Materials used for sheeting, sheet piling, cribbing, bracing, shoring, and underpinning shall be in good serviceable condition, and timbers shall be sound, free from large or loose knots, and of proper dimensions.

(m) Special precautions shall be taken in sloping or shoring the sides of excavations adjacent to a previously backfilled excavation or a fill, particularly when the separation is less than the depth of the excavation. Particular attention also shall be paid to joints and seams of material comprising a face and the slope of such seams and joints.

(n) Except in hard rock, excavations below the level of the base of footing of any foundation or retaining wall shall not be permitted, unless the wall is underpinned and all other precautions taken to insure the stability of the adjacent walls for the protection of employees involved in excavation work or in the vicinity thereof.

(o) If the stability of adjoining buildings or walls is endangered by excavation,

shoring, bracing, or underpinning shall be provided as necessary to insure their safety. Such shoring, bracing, or underpinning shall be inspected daily or more often, as conditions warrant, by a competent person and the protection effectively maintained.

(p) Diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering an excavation and to provide adequate drainage of the area adjacent to the excavation. Water shall not be allowed to accumulate in an excavation.

(q) If it is necessary to place or operate power shovels, derricks, trucks, materials, or other heavy objects on a level above and near an excavation, the side of the excavation shall be sheet-piled, shored, and braced as necessary to resist the extra pressure due to such superimposed loads.

(r) Blasting and the use of explosives shall be performed in accordance with Subpart U of this part.

(s) When mobile equipment is utilized or allowed adjacent to excavations, substantial stop logs or barricades shall be installed. If possible, the grade should be away from the excavation.

(t) Adequate barrier physical protection shall be provided at all remotely located excavations. All wells, pits, shafts, etc., shall be barricaded or covered. Upon completion of exploration and similar operations, temporary wells, pits, shafts, etc., shall be backfilled.

(u) If possible, dust conditions shall be kept to a minimum by the use of water, salt, calcium chloride, oil, or other means.

(v) In locations where oxygen deficiency or gaseous conditions are possible, air in the excavation shall be tested. Controls, as set forth in Subparts D and E of this part, shall be established to assure acceptable atmospheric conditions. When flammable gases are present, adequate ventilation shall be provided or sources of ignition shall be eliminated. Attended emergency rescue equipment, such as breathing apparatus, a safety harness and line, basket stretcher, etc., shall be readily available where adverse atmospheric conditions may exist or develop in an excavation.

(w) Where employees or equipment are required or permitted to cross over excavations, walkways or bridges with standard guardrails shall be provided.

(x) Where ramps are used for employees or equipment, they shall be designed and constructed by qualified persons in accordance with accepted engineering requirements.

(y) All ladders used on excavation operations shall be in accordance with the requirements of Subpart L of this part.

§ 1926.652 Specific trenching requirements.

(a) Banks more than 5 feet high shall be shored, laid back to a stable slope, or some other equivalent means of protection shall be provided where employees may be exposed to moving ground or cave-ins. Refer to Table P-1 as a guide in sloping of banks. Trenches less than 5 feet in depth shall also be effectively protected when examination of the ground

indicates hazardous ground movement may be expected.

(b) Sides of trenches in unstable or soft material, 5 feet or more in depth, shall be shored, sheeted, braced, sloped, or otherwise supported by means of sufficient strength to protect the employees working within them. See Tables P-1, P-2 (following paragraph (g) of this section).

(c) Sides of trenches in hard or compact soil, including embankments, shall be shored or otherwise supported when the trench is more than 5 feet in depth and 8 feet or more in length. In lieu of shoring, the sides of the trench above the 5-foot level may be sloped to preclude collapse, but shall not be steeper than a 1-foot rise to each 1/2-foot horizontal. When the outside diameter of a pipe is greater than 6 feet, a bench of 4-foot minimum shall be provided at the toe of the sloped portion.

(d) Materials used for sheeting and sheet piling, bracing, shoring, and underpinning, shall be in good serviceable condition, and timbers used shall be sound and free from large or loose knots, and shall be designed and installed so as to be effective to the bottom of the excavation.

(e) Additional precautions by way of shoring and bracing shall be taken to prevent slides or cave-ins when excavations or trenches are made in locations adjacent to backfilled excavations, or where excavations are subjected to vibrations from railroad or highway traffic, the operation of machinery, or any other source.

(f) Employees entering bell-bottom pier holes shall be protected by the installation of a removable-type casing of sufficient strength to resist shifting of the surrounding earth. Such tempo-

rary protection shall be provided for the full depth of that part of each pier hole which is above the bell. A lifeline, suitable for instant rescue and securely fastened to a shoulder harness, shall be worn by each employee entering the shafts. This lifeline shall be individually manned and separate from any line used to remove materials excavated from the bell footing.

(g) (1) Minimum requirements for trench shoring shall be in accordance with Table P-2.

(2) Braces and diagonal shores in a wood shoring system shall not be subjected to compressive stress in excess of values given by the following formula:

$$S = 1300 - \frac{20L}{D}$$

$$\text{Maximum ratio } L = 50 \frac{D}{S}$$

Where:

L=Length, unsupported, in inches.

D=Least side of the timber in inches.

S=Allowable stress in pounds per square inch of cross-section.

Table P-1

APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS

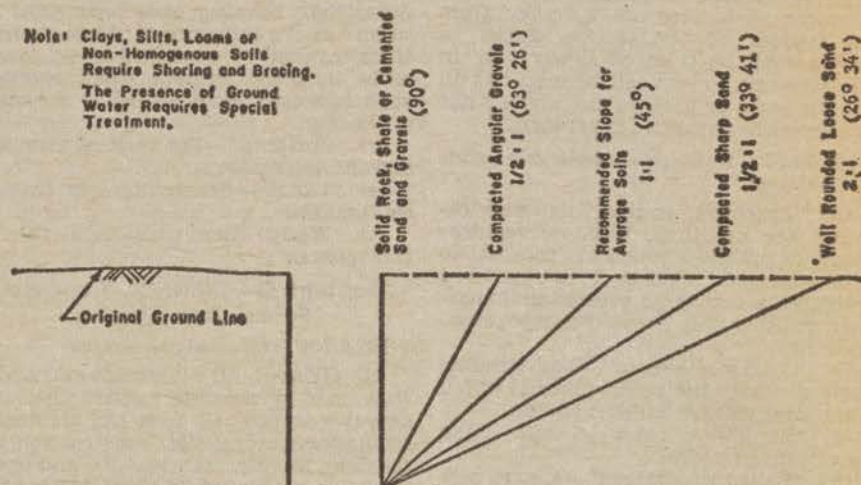


TABLE P-2

TRENCH SHORING—MINIMUM REQUIREMENTS

Depth of trench	Kind or condition of earth	Size and spacing of members										
		Uprights		Stringers		Cross braces ¹				Maximum spacing		
		Minimum dimension	Maximum spacing	Minimum dimension	Maximum spacing	Width of trench						
						Up to 3 feet	3 to 6 feet	6 to 9 feet	9 to 12 feet	12 to 15 feet	Vertical	Horizontal
Feet		Inches	Feet	Inches	Feet	Inches	Inches	Inches	Inches	Inches	Feet	Feet
5 to 10	Hard, compact.....	3 x 4 or 2 x 6	6			2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Likely to crack.....	3 x 4 or 2 x 6	3	4 x 6	4	2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Soft, sandy, or filled.....	3 x 4 or 2 x 6	Close sheeting	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Hydrostatic pressure.....	3 x 4 or 2 x 6	Close sheeting	6 x 8	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
10 to 15	Hard.....	3 x 4 or 2 x 6	4	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Likely to crack.....	3 x 4 or 2 x 6	2	4 x 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8		6
	Soft, sandy, or filled.....	3 x 4 or 2 x 6	Close sheeting	4 x 6	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
	Hydrostatic pressure.....	3 x 6	Close sheeting	8 x 10	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
15 to 20	All kinds or conditions.....	3 x 6	Close sheeting	4 x 12	4	4 x 12	6 x 8	8 x 8	8 x 10	10 x 10	4	6
Over 20	All kinds or conditions.....	3 x 6	Close sheeting	6 x 8	4	4 x 12	8 x 8	8 x 10	10 x 10	10 x 12	4	6

¹ Trench jacks may be used in lieu of, or in combination with, cross braces. Shoring is not required in solid rock, hard shale, or hard slag. Where desirable, steel sheet piling and bracing of equal strength may be substituted for wood.

(h) When employees are required to be in trenches 4 feet deep or more, an adequate means of exit, such as a ladder or steps, shall be provided and located so as to require no more than 25 feet of lateral travel.

(i) Bracing or shoring of trenches shall be carried along with the excavation.

(j) Cross braces or trench jacks shall be placed in true horizontal position, be spaced vertically, and be secured to prevent sliding, falling, or kickouts.

(k) Portable trench boxes or sliding trench shields may be used for the protection of personnel in lieu of a shoring system or sloping. Where such trench boxes or shields are used, they shall be designed, constructed, and maintained in a manner which will provide protection equal to or greater than the sheeting or shoring required for the trench.

(l) Backfilling and removal of trench supports shall progress together from the bottom of the trench. Jacks or braces shall be released slowly and, in unstable soil, ropes shall be used to pull out the jacks or braces from above after employees have cleared the trench.

§ 1926.653 Definitions applicable to this subpart.

(a) "Accepted engineering requirements (or practices)"—Those requirements or practices which are compatible with standards required by a registered architect, a registered professional engineer, or other duly licensed or recognized authority.

(b) "Angle of repose"—The greatest angle above the horizontal plane at which a material will lie without sliding.

(c) "Bank"—A mass of soil rising above a digging level.

(d) "Belled excavation"—A part of a shaft or footing excavation, usually near the bottom and bell-shaped; i.e., an enlargement of the cross section above.

(e) "Braces (trench)"—The horizontal members of the shoring system whose ends bear against the uprights or stringers.

(f) "Excavation"—Any manmade cavity or depression in the earth's surface, including its sides, walls, or faces, formed by earth removal and producing unsupported earth conditions by reasons of the excavation. If installed forms or similar structures reduce the depth-to-width relationship, an excavation may become a trench.

(g) "Faces"—See paragraph (k) of this section.

(h) "Hard compact soil"—All earth materials not classified as running or unstable.

(i) "Kickouts"—Accidental release or failure of a shore or brace.

(j) "Sheet pile"—A pile, or sheeting, that may form one of a continuous interlocking line, or a row of timber, concrete, or steel piles, driven in close contact to provide a tight wall to resist the lateral pressure of water, adjacent earth, or other materials.

(k) "Sides", "Walls", or "Faces"—The vertical or inclined earth surfaces formed as a result of excavation work.

(l) "Slope"—The angle with the horizontal at which a particular earth material will stand indefinitely without movement.

(m) "Stringers" (wales)—The horizontal members of a shoring system whose sides bear against the uprights or earth.

(n) "Trench"—A narrow excavation made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench is not greater than 15 feet.

(o) "Trench jack"—Screw or hydraulic type jacks used as cross bracing in a trench shoring system.

(p) "Trench shield"—A shoring system composed of steel plates and bracing, welded or bolted together, which support the walls of a trench from the ground level to the trench bottom and which can be moved along as work progresses.

(q) "Unstable soil"—Earth material, other than running, that because of its nature or the influence of related conditions, cannot be depended upon to remain in place without extra support, such as would be furnished by a system of shoring.

(r) "Uprights"—The vertical members of a shoring system.

(s) "Wales"—See paragraph (m) of this section.

(t) "Walls"—See paragraph (k) of this section.

Subpart Q—Concrete, Concrete Forms, and Shoring

§ 1926.700 General provisions.

(a) *General.* All equipment and materials used in concrete construction and masonry work shall meet the applicable requirements for design, construction, inspection, testing, maintenance and operations as prescribed in ANSI A10.9-1970, Safety Requirements for Concrete Construction and Masonry Work.

(b) *Reinforcing steel.* (1) Employees working more than 6 feet above any adjacent working surfaces, placing and tying reinforcing steel in walls, piers, columns, etc., shall be provided with a safety belt, or equivalent device, in accordance with Subpart E of this part.

(2) Employees shall not be permitted to work above vertically protruding reinforcing steel unless it has been protected to eliminate the hazard of impalement.

(3) *Guying.* Reinforcing steel for walls, piers, columns, and similar vertical structures shall be guyed and supported to prevent collapse.

(4) *Wire mesh rolls.* Wire mesh rolls shall be secured at each end to prevent dangerous recoiling action.

(c) *Bulk concrete handling.* Bulk storage bins, containers, or silos shall have conical or tapered bottoms with mechanical or pneumatic means of starting the flow of material.

(d) *Concrete placement.* (1) *Concrete mixers.* Concrete mixers equipped with 1-yard or larger loading skips shall be equipped with a mechanical device to clear the skip of material.

(2) *Guardrails.* Mixers of 1-yard capacity or greater shall be equipped with

protective guardrails installed on each side of the skip.

(3) *Bull floats.* Handles on bull floats, used where they may contact energized electrical conductors, shall be constructed of nonconductive material, or insulated with a nonconductive sheath whose electrical and mechanical characteristics provide the equivalent protection of a handle constructed of nonconductive material.

(4) *Powered concrete trowels.* Powered and rotating-type concrete troweling machines that are manually guided shall be equipped with a control switch that will automatically shut off the power whenever the operator removes his hands from the equipment handles.

(5) *Concrete buggies.* Handles of buggies shall not extend beyond the wheels on either side of the buggy. Installation of knuckle guards on buggy handles is recommended.

(6) *Pumpcrete systems.* Pumpcrete or similar systems using discharge pipes shall be provided with pipe supports designed for 100 percent overload. Compressed air hose in such systems shall be provided with positive fail-safe joint connectors to prevent separation of sections when pressurized.

(7) *Concrete buckets.* (i) Concrete buckets equipped with hydraulic or pneumatically operated gates shall have positive safety latches or similar safety devices installed to prevent aggregate and loose material from accumulating on the top and sides of the bucket.

(ii) Riding of concrete buckets for any purpose shall be prohibited, and vibrator crews shall be kept out from under concrete buckets suspended from cranes or cableways.

(8) When discharging on a slope, the wheels of ready-mix trucks shall be blocked and the brakes set to prevent movement.

(9) Nozzlemen applying a cement, sand, and water mixture through a pneumatic hose shall be required to wear protective head and face equipment, as prescribed in Subpart E of this part.

(e) *Vertical shoring.* (1) *General requirements.* (i) When temporary storage of reinforcing rods, material, or equipment on top of formwork becomes necessary, these areas shall be strengthened to meet the intended loads.

(ii) The sills for shoring shall be sound, rigid, and capable of carrying the maximum intended load.

(iii) All shoring equipment shall be inspected prior to erection to determine that it is as specified in the shoring layout. Any equipment found to be damaged shall not be used for shoring.

(iv) Erected shoring equipment shall be inspected immediately prior to, during, and immediately after the placement of concrete. Any shoring equipment that is found to be damaged or weakened shall be immediately reinforced or reshored.

(v) Reshoring shall be provided when necessary to safely support slabs and beams after stripping, or where such members are subjected to superimposed loads due to construction work done.

(2) *Tubular welded frame shoring.* (i) Metal tubular frames used for shoring shall not be loaded beyond the safe working load recommended by the manufacturer.

(ii) All locking devices on frames and braces shall be in good working order; coupling pins shall align the frame or panel legs; pivoted cross braces shall have their center pivot in place; and all components shall be in a condition similar to that of original manufacture.

(iii) When checking the erected shoring frames with the shoring layout, the spacing between towers and cross brace spacing shall not exceed that shown on the layout, and all locking devices shall be in the closed position.

(iv) Devices for attaching the external lateral stability bracing shall be securely fastened to the legs of the shoring frames.

(v) All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form.

§ 1926.701 Forms and shoring.

(a) *General provisions.* (1) Formwork and shoring shall be designed, erected, supported, braced, and maintained so that it will safely support all vertical and lateral loads that may be imposed upon it during placement of concrete.

(2) Drawings or plans showing the jack layout, formwork, shoring, working decks, and scaffolding, shall be available at the jobsite.

(3) Stripped forms and shoring shall be removed and stockpiled promptly after stripping, in all areas in which persons are required to work or pass. Protruding nails, wire ties, and other form accessories not necessary to subsequent work shall be pulled, cut, or other means taken to eliminate the hazard.

(4) Imposition of any construction loads on the partially completed structure shall not be permitted unless such loading has been considered in the design and approved by the engineer-architect.

(b) *Vertical slip forms.* (1) The steel rods or pipe on which the jacks climb or by which the forms are lifted shall be specifically designed for the purpose. Such rods shall be adequately braced where not encased in concrete.

(2) Jacks and vertical supports shall be positioned in such a manner that the vertical loads are distributed equally and do not exceed the capacity of the jacks.

(3) The jacks or other lifting devices shall be provided with mechanical dogs or other automatic holding devices to provide protection in case of failure of the power supply or the lifting mechanism.

(4) Lifting shall proceed steadily and uniformly and shall not exceed the predetermined safe rate of lift.

(5) Lateral and diagonal bracing of the forms shall be provided to prevent excessive distortion of the structure during the jacking operation.

(6) During jacking operations, the form structure shall be maintained in line and plumb.

(7) All vertical lift forms shall be provided with scaffolding or work platforms

completely encircling the area of placement.

(c) *Tube and coupler shoring.* (1) Couplers (clamps) shall not be used if they are deformed, broken, or have defective or missing threads on bolts, or other defects.

(2) The material used for the couplers (clamps) shall be of a structural type such as drop-forged steel, malleable iron, or structural grade aluminum. Gray cast iron shall not be used.

(3) When checking the erected shoring towers with the shoring layout, the spacing between posts shall not exceed that shown on the layout, and all interlocking of tubular members and tightness of couplers shall be checked.

(4) All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form material and shall be snug against the posts.

(d) *Single post shores.* (1) For stability, single post shores shall be horizontally braced in both the longitudinal and transverse directions, and diagonal bracing shall also be installed. Such bracing shall be installed as the shores are being erected.

(2) All baseplates or shore heads of single post shores shall be in firm contact with the footing sill and the form materials.

(3) Whenever single post shores are used in more than one tier, the layout shall be designed and inspected by a structural engineer.

(4) When formwork is at an angle, or sloping, or when the surface shored is sloping, the shoring shall be designed for such loading.

(5) Adjustment of single post shores to raise formwork shall not be made after concrete is in place.

(6) Fabricated single post shores shall not be used if heavily rusted, bent, dented, rewelded, or having broken weldments or other defects. If they contain timber, they shall not be used if timber is split, cut, has sections removed, is rotted, or otherwise structurally damaged.

(7) All timber and adjusting devices to be used for adjustable timber single post shores shall be inspected before erection.

(8) Timber shall not be used if it is split, cut, has sections removed, is rotted, or is otherwise structurally damaged.

(9) Adjusting devices shall not be used if heavily rusted, bent, dented, rewelded, or having broken weldments or other defects.

(10) All nails used to secure bracing or adjustable timber single post shores shall be driven home and the point of the nail bent over if possible.

§ 1926.702 Definitions applicable to this subpart.

(a) "Bull float"—A tool used to spread out and smooth the concrete.

(b) "Formwork" or "falsework"—The total system of support for freshly placed concrete, including the mold or sheathing which contacts the concrete as well as all supporting members, hardware, and necessary bracing.

(c) "Guy"—A line that steadies a high piece or structure by pulling against an off-center load.

(d) "Shore"—A supporting member that resists a compressive force imposed by a load.

(e) "Vertical slip forms"—Forms which are jacked vertically and continuously during placing of the concrete.

Subpart R—Steel Erection

§ 1926.750 Flooring requirements.

(a) *Permanent flooring—skeleton steel construction in tiered buildings.* (1) The permanent floors shall be installed as the erection of structural members progresses, and there shall be not more than eight stories between the erection floor and the uppermost permanent floor, except where the structural integrity is maintained as a result of the design.

(2) At no time shall there be more than four floors or 48 feet of unfinished bolting or welding above the foundation or uppermost permanently secured floor.

(b) *Temporary flooring—skeleton steel construction in tiered buildings.* (1) (i) The derrick or erection floor shall be solidly planked or decked over its entire surface except for access openings. Planking or decking of equivalent strength, shall be of proper thickness to carry the working load. Planking shall be not less than 2 inches thick full size undressed, and shall be laid tight and secured to prevent movement.

(ii) On buildings or structures not adaptable to temporary floors, and where scaffolds are not used, safety nets shall be installed and maintained whenever the potential fall distance exceeds two stories or 25 feet. The nets shall be hung with sufficient clearance to prevent contacts with the surface of structures below.

(iii) *Floor periphery—safety railing.* A safety railing of 1/2-inch wire rope or equal shall be installed, approximately 42 inches high, around the periphery of all temporary-planked or temporary metal-decked floors of tier buildings and other multifloored structures during structural steel assembly.

(2) Where erection is being done by means of a crane operating on the ground, a tight and substantial floor shall be maintained within two stories or 25 feet, whichever is less, below and directly under that portion of each tier of beams on which bolting, riveting, welding, or painting is being done.

(c) *Flooring—other construction.* (1) In the erection of a building having double wood floor construction, the rough flooring shall be completed as the building progresses, including the tier below the one on which floor joists are being installed.

(2) For single wood floor or other flooring systems, the floor immediately below the story where the floor joists are being installed shall be kept planked or decked over.

§ 1926.751 Structural steel assembly.

(a) During the final placing of solid web structural members, the load shall not be released from the hoisting line

until the members are secured with not less than two bolts, or the equivalent at each connection and drawn up wrench tight.

(b) Open web steel joists shall not be placed on any structural steel framework unless such framework is safely bolted or welded.

(c) (1) In steel framing, where bar joists are utilized, and columns are not framed in at least two directions with structural steel members, a bar joist shall be field-bolted at columns to provide lateral stability during construction.

(2) Where longspan joists or trusses, 40 feet or longer, are used, a center row of bolted bridging shall be installed to provide lateral stability during construction prior to slacking of hoisting line.

(3) No load shall be placed on open web steel joists until these security requirements are met.

(d) Tag lines shall be used for controlling loads.

§ 1926.752 Bolting, riveting, fitting-up, and plumbing-up.

(a) *General requirements.* (1) Containers shall be provided for storing or carrying rivets, bolts, and drift pins, and secured against accidental displacement when aloft.

(2) Pneumatic hand tools shall be disconnected from the power source, and pressure in hose lines shall be released, before any adjustments or repairs are made.

(3) Air line hose sections shall be tied together except when quick disconnect couplers are used to join sections.

(4) Eye protection shall be provided in accordance with Subpart E of this part.

(b) *Bolting.* (1) When bolts or drift pins are being knocked out, means shall be provided to keep them from falling.

(2) Impact wrenches shall be provided with a locking device for retaining the socket.

(c) *Riveting.* (1) Riveting shall not be done in the vicinity of combustible material unless precautions are taken to prevent fire.

(2) When rivet heads are knocked off, or backed out, means shall be provided to keep them from falling.

(3) A safety wire shall be properly installed on the snap and on the handle of the pneumatic riveting hammer and shall be used at all times. The wire size shall be not less than No. 9 (B&S gauge), leaving the handle and annealed No. 14 on the snap, or equivalent.

(d) *Plumbing-up.* (1) Connections of the equipment used in plumbing-up shall be properly secured.

(2) The turnbuckles shall be secured to prevent unwinding while under stress.

(3) Plumbing-up guys related equipment shall be placed so that employees can get at the connection points.

(4) Plumbing-up guys shall be removed only under the supervision of a competent person.

(e) Wood planking shall be of proper thickness to carry the working load, but shall be not less than 2 inches thick full size undressed, exterior grade plywood, at least 3/4-inch thick, or equivalent material.

(f) Metal decking of sufficient strength shall be laid tight and secured to prevent movement.

(g) Planks shall overlap the bearing on each end by a minimum of 12 inches.

(h) Wire mesh, exterior plywood, or equivalent, shall be used around columns where planks do not fit tightly.

(i) Provisions shall be made to secure temporary flooring against displacement.

(j) All unused openings in floors, temporary or permanent, shall be completely plank over or guarded in accordance with Subpart M of this part.

(k) Employees shall be provided with safety belts in accordance with § 1926.104 when they are working on float scaffolds.

Subpart S—Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air

§ 1926.800 Tunnels and shafts.

(a) *General.* (1) The specific requirements of this Subpart S, Tunnels, Shafts, Caissons, Cofferdams, and Compressed Air, shall be complied with as well as the applicable provisions of all other subparts of this part.

(2) Safe means of access shall be provided and maintained to all working places.

(3) When ladders and stairways are provided in shafts and steep inclines, they shall meet the requirements of Subparts L and M of this part.

(4) Access to unattended underground openings shall be restricted by gates or doors. Unused chutes, manways, or other openings shall be tightly covered, bulkheaded, or fenced off, and posted. Conduits, trenches, and manholes shall meet the requirements of Subparts M and P of this part.

(5) Subsidence areas that present hazards shall be fenced and posted.

(6) Each operation shall have a check-in and check-out system that will provide positive identification of every employee underground. An accurate record and location of the employees shall be kept on the surface.

(b) *Emergency provisions.* (1) Evacuation plans and procedures shall be developed and made known to the employees.

(2) Emergency hoisting facilities shall be readily available at shafts more than 50 feet in depth, unless hoisting facilities are provided that are independent of electrical power failures. A boatswain's chair shall meet the requirements of Subpart L of this part.

(3) Bureau of Mines approved self-rescuers shall be available near the advancing face to equip each face employee. Such equipment shall be on the haulage equipment and in other areas where employees might be trapped by smoke or gas, and shall be maintained in good condition.

(4) Telephone or other signal communication shall be provided between the work face and the tunnel portal, and such systems shall be independent of the tunnel power supply.

(c) *Air Quality and Ventilation.*—(1) *Air quality and quantity.* (i) Instruments shall be provided to test the atmosphere quantitatively for carbon monoxide, nitrogen dioxide, flammable or toxic gases, dusts, mists, and fumes that occur in the tunnel or shaft. Tests shall be conducted as frequently as necessary to assure that the required quality and quantity of air is maintained. A record of all tests shall be maintained and be kept available.

(ii) Field-type oxygen analyzers, or other suitable devices, shall be used to test for oxygen deficiency.

(iii) Respirators shall not be substituted for environmental control measures. However, where environmental controls have not yet been developed, or when necessary by the nature of the work involved (for example, welding, sand blasting, lead burning), an employee may work for short periods of time in concentrations of airborne contaminants which exceed the limit of permissible excursions referred to in subdivisions (iv) and (v) of this subparagraph, if such employee wears a respiratory protective device approved by the Bureau of Mines as protection against the particular hazards involved.

(iv) The exposure to airborne contaminants of an employee working in a tunnel or shaft shall not exceed the threshold limit values adopted by the American Conference of Governmental Industrial Hygienists, as set forth and explained in the 1970 edition of "Threshold Limit Values of Airborne Contaminants."

(v) Employees shall be withdrawn from areas in which there is a concentration of an airborne contaminant which exceeds the threshold limit value listed for that contaminant.

(vi) Atmospheres in all active areas shall contain at least 20 percent oxygen.

(2) *Ventilation.* (i) Tunnels shall be provided with mechanically induced primary ventilation in all work areas. The direction of airflow shall be reversible.

(ii) Ventilation doors, not operated mechanically, shall be designed and installed so that they are self-closing and will remain closed regardless of the direction of the air movement.

(iii) When there has been a failure of ventilation, and ventilation has been restored in a reasonable time, all places where flammable gas may have accumulated shall be examined by a competent person and determined to be free of flammable gas before power is restored and work resumed.

(iv) When the main fan or fans have been shut down with all employees out of the adit, tunnel or shaft, no employee, other than those qualified to examine the adit, tunnel, or shaft, or other authorized employee, shall go underground until the fans have been started, the work areas examined for gas and other hazards, and declared safe.

(v) The supply of fresh air shall not be less than 200 cubic feet per minute for each employee underground. The linear velocity of the air flow in the tunnel bore shall not be less than 30 feet per minute

in those tunnels where blasting or rock drilling is conducted or where there are other conditions that are likely to produce dusts, fumes, vapors, or gases in harmful quantities.

(vi) If 1.5 percent or higher concentration of flammable gas is detected in air returning from an underground working place or places, the employees shall be withdrawn and the power cut off to the portion of the area endangered by such flammable gas until the concentration of such gas is reduced to 1 percent or less.

(vii) Internal combustion engines other than mobile diesel shall not be used underground. Mobile diesel-powered equipment used underground shall be certified by the Bureau of Mines, U.S. Department of the Interior according to the Bureau of Mines publication "Mechanical Equipment for Mines—tests for permissibility and suitability, Part 32, Mobile Diesel Power Equipment for Non-Coal Mines, Schedule 24" of March 23, 1965.

(d) *Illumination.* (1) Sufficient lighting shall be provided, in accordance with the requirements of Table D-3 of Subpart D of this part, to permit safe operations at the face as well as in the general tunnel or shaft area and at the employees' workplace.

(e) *Fire prevention and control.*—(1) *General.* (i) The requirements for fire prevention and protection specified in Subpart F of this part shall be complied with in all tunnel and shaft operations.

(ii) Signs warning against smoking and open flames shall be posted so that they can be readily seen in areas or places where fire or explosion hazards exist.

(iii) The carrying of matches, lighters, or other flame-producing smoking materials shall be prohibited in all underground operations where fire or explosion hazards exist.

(iv) Not more than a 1 day's supply of diesel fuel shall be stored underground.

(v) Gasoline or liquefied petroleum gases shall not be taken, stored, or used underground.

(vi) Oil, grease, or fuel stored underground shall be kept in tightly sealed containers in fire-resistant areas, at safe distances from explosives magazines, electrical installations, and shaft stations.

(vii) Air that has passed through underground oil or fuel-storage areas shall not be used to ventilate working areas.

(viii) Approved fire-resistant hydraulic fluids shall be used in hydraulically actuated underground machinery and equipment.

(ix) Fires shall not be built underground.

(x) Noncombustible barriers shall be installed below welding or burning operations in or over a shaft or raise.

(xi) Fire extinguishers or equivalent protection shall be provided at the head and tail pulleys of underground belt conveyors and at 300-foot intervals along the belt line.

(xii) At tunnel operations, employing 25 or more employees at one time under-

ground at least two rescue crews (10 employees divided between shifts) shall be trained annually in rescue procedures, in the use, care, and limitations of oxygen breathing apparatus, and the use and maintenance of firefighting equipment. Not less than one crew (5 employees) shall be trained at smaller operations.

(f) *Personal protective equipment.* Protective clothing or equipment shall be worn as specified in Subparts D and E of this part.

(g) *Noise.* (1) Permissible noise exposures shall conform to those specified in Subpart D of this part.

(h) *Ground support.*—(1) *Tunnel portal area.* Portals shall be protected and supported where loose soil or rock or fractured material is encountered.

(2) *Tunnel area.* (i) The employer shall examine and test the roof, face, and walls of the work area at the start of each shift and frequently thereafter.

(ii) Loose ground shall be taken down or supported. Ground conditions along haulage ways and travelways shall be examined periodically and scaled or supported as necessary.

(iii) Torque meters and torque wrenches shall be available at tunnels where rock bolts are used for ground support. Frequent tests shall be made to determine if bolts meet the required torque. The test frequency shall be determined by rock conditions and distance from vibration sources.

(iv) Damaged or dislodged tunnel supports, whether steel sets or timber, shall be repaired or replaced. New supports shall be installed whenever possible before removing the damaged supports.

(v) All sets, including horseshoe-shaped or arched rib steel sets, shall be designed and installed so that the bottoms will have required anchorage to prevent pressures from pushing them inward into the excavation. Lateral bracing shall be provided between sets to further stabilize the support.

(3) *Shafts.* (1) Small diameter shafts, which employees are required to enter, shall be provided with a steel casing, concrete pipe, timber, or other material of required strength to support the surrounding earth.

(ii) The casing and bracing shall be provided the full depth of the shaft, or at least 5 feet into solid rock if possible, and shall extend at least 1 foot above ground level.

(iii) All wells or shafts over 5 feet in depth shall be retained with lagging, spiling, or casing.

(iv) In shafts, the employer shall inspect the walls, ladders, timbers, blocking, and wedges of the last set to determine if they have loosened following blasting operations. Where found unsafe, corrections shall be made before shift operations are started.

(v) Safety belts shall be worn on skips and platforms used in shafts by crews when the skip or cage does not occlude the opening to within 1 foot of the sides of the shaft, unless guardrails or cages are provided.

(i) *Drilling.* (1) Equipment that is to be used during a shift shall be inspected each shift by a competent person. Equipment defects affecting safety shall be corrected before the equipment is used.

(2) The drilling area shall be inspected for hazards before starting the drilling operation.

(3) Employees shall not be allowed on a drill mast while the drill bit is in operation.

(4) When a drill is being moved from one drilling area to another, drill steel, tools, and other equipment shall be secured, and the mast placed in a safe position.

(5) Receptacles or racks shall be provided for drill steel stored on jumbos.

(6) Before drilling cycle is started, warning shall be given to men working below jumbo decks.

(7) Drills on columns shall be anchored firmly before drilling is started and shall be retightened frequently thereafter.

(8) The employer shall provide mechanical means for lifting drills, roof bolts, mine straps, and other unwieldy heavy material to the top decks of jumbos over 10 feet in height.

(9) The employer shall provide stair access to jumbo decks wide enough to accommodate two persons if the deck is over 10 feet in height.

(10) On jumbo decks over 10 feet in height, guardrails which are removable (pipe in sockets with chain handrail), or equal, shall be provided on all sides and back platforms.

(11) Scaling bars shall be in good condition at all times, and blunted and severely worn bars shall not be used.

(12) When jumbos are being moved, riders will not be allowed on the jumbo unless they are assisting the driver.

(13) Before commencing the drill cycle, the face and lifters shall be examined for misfires (residual explosives) and, if found, they shall be removed before drilling commences at the face. Lifters shall not be drilled through blasted rock (muck) or water.

(14) Air lines that are buried in the invert shall be identified by signs posted nearby, warning all personnel.

(j) *Blasting.* All blasting and explosives-handling operations shall be conducted in compliance with Subpart U of this part.

(k) *Haulage.* (1) Equipment that is to be used during a shift shall be inspected by a competent person each shift. Equipment defects affecting safety shall be corrected before the equipment is used.

(2) Powered mobile equipment shall be provided with adequate brakes.

(3) Powered mobile haulage equipment shall be provided with audible warning devices. Lights shall be provided at both ends.

(4) Cab windows shall be of safety glass, or equivalent, in good condition, and shall be kept clean.

(5) Adequate backstops or brakes shall be installed on inclined conveyor drive units to prevent conveyors from running in reverse and creating a hazard to employees.

(6) No employee shall be permitted to ride a power-driven chain, belt, or bucket conveyor, unless the conveyor is specifically designed for the transportation of employees.

(7) The employer shall not permit employees to ride in dippers, shovel buckets, forks, clamshells, or in the beds of dump trucks, or on haulage equipment not specifically designed or adapted for the transportation of employees.

(8) Electrically powered mobile equipment shall not be left unattended unless the master switch is in the off position, all operating controls are in the neutral position, and the brakes are set, or other equivalent precautions are taken against rolling.

(9) When dumping cars by hand, the car dumps shall be provided with tie-down chains or bumper blocks to prevent cars from overturning.

(10) Rocker-bottom or bottom-dump cars shall be equipped with positive locking devices.

(11) Equipment which is to be hauled shall be so loaded and protected as to prevent sliding or spillage.

(12) Parked railcars shall be blocked securely.

(13) Berms, bumper blocks, safety hooks, or similar means shall be provided to prevent overtravel and overturning at dumping locations.

(14) Where necessary, bumper blocks, or the equivalent, shall be provided at all track dead ends.

(15) Supplies, materials, and tools, other than small handtools, shall not be transported with employees in mantrip cars.

(1) *Electrical equipment.* (1) Electrical equipment shall conform to the requirements of Subpart K of this part.

(2) Powerlines shall be well separated or insulated from waterlines, telephone lines, and airlines.

(3) Oil-filled transformers shall not be used underground unless they are located in a fire-resistant enclosure and surrounded by a dike to contain the contents of the transformers in event of a rupture.

(m) *Hoisting.* (1) Hoisting machines, either powered or hand operated, shall be worm-gear or powered both ways. The design must be such that when the power is stopped, the load cannot move.

(2) Controls for powered hoists shall be of the deadman type with a nonlocking switch or control.

(3) A device to shut off the power shall be installed ahead of the operating control.

(4) Hand-operated release mechanisms, which can permit the load to descend faster than the speed rating, shall not be used.

(5) Hoist machines with cast metal parts shall not be used.

(6) Every hoist shall be tested with twice the maximum load before being put into operation, and annually thereafter.

(7) All anchorages of hoists shall be inspected at the beginning of each shift.

(8) An enclosed covered metal cage shall be used to raise and lower persons

in the shaft. The cage shall be designed with a safety factor of 4 and shall be load-tested prior to use. The exterior of the cage shall be free of projections or sharp corners. Only closed shackles shall be used in the cage rigging.

(9) If the cage is equipped with a door, a positive locking device shall be installed to prevent the door from opening accidentally while the cage is being lowered or raised while hoisting or lowering employees.

§ 1926.801 Caissons.

(a) Wherever, in caisson work in which compressed air is used, and the working chamber is less than 11 feet in length, and when such caissons are at any time suspended or hung while work is in progress so that the bottom of the excavation is more than 9 feet below the deck of the working chamber, a shield shall be erected therein for the protection of the employees.

(b) Shafts shall be subjected to a hydrostatic or air-pressure test, at which pressure they shall be tight. The shaft shall be stamped on the outside shell about 12 inches from each flange to show the pressure to which they have been subjected.

(c) Whenever a shaft is used, it shall be provided, where space permits, with a safe, proper, and suitable staircase for its entire length, including landing platforms, not more than 20 feet apart. Where this is impracticable, suitable ladders shall be installed with landing platforms located about 20 feet apart to break the climb.

(d) All caissons having a diameter or side greater than 10 feet shall be provided with a man lock and shaft for the exclusive use of employees.

(e) In addition to the gauge in the locks, an accurate gauge shall be maintained on the outer and inner side of each bulkhead. These gauges shall be accessible at all times and kept in accurate working order.

(f) In caisson operations where employees are exposed to compressed air working environments, the requirements contained in § 1926.803 shall be complied with.

§ 1926.802 Cofferdams.

(a) If overtopping of the cofferdam by high waters is possible, means shall be provided for controlled flooding of the work area.

(b) Warning signals for evacuation of employees in case of emergency shall be developed and posted.

(c) Cofferdam walkways, bridges, or ramps with at least two means of rapid exit shall be provided with guardrails as specified in Subpart M of this part.

(d) Cofferdams located close to navigable shipping channels shall be protected from vessels in transit, where possible.

§ 1926.803 Compressed air.

(a) *General provisions.* (1) There shall be present, at all times, at least one competent person designated by and representing the employer, who shall be familiar with this subpart in all respects,

and responsible for full compliance with these and other applicable subparts.

(2) Every employee shall be instructed in the rules and regulations which concern his safety or the safety of others.

(b) *Medical attendance, examination, and regulations.* (1) There shall be retained one or more licensed physicians familiar with and experienced in the physical requirements and the medical aspects of compressed air work and the treatment of decompression illness. He shall be available at all times while work is in progress in order to provide medical supervision of employees employed in compressed air work. He shall himself be physically qualified and be willing to enter a pressurized environment.

(2) No employee shall be permitted to enter a compressed air environment until he has been examined by the physician and reported by him to be physically qualified to engage in such work.

(3) In the event an employee is absent from work for 10 days, or is absent due to sickness or injury, he shall not resume work until he is reexamined by the physician, and his physical condition reported, as provided in this paragraph, to be such as to permit him to work in compressed air.

(4) After an employee has been employed continuously in compressed air for a period designated by the physician, but not to exceed 1 year, he shall be reexamined by the physician to determine if he is still physically qualified to engage in compressed air work.

(5) Such physician shall at all times keep a complete and full record of examinations made by him. The physician shall also keep an accurate record of any decompression illness or other illness or injury incapacitating any employee for work, and of all loss of life that occurs in the operation of a tunnel, caisson, or other compartment in which compressed air is used.

(6) Records shall be available for the inspection of the Secretary or his representatives, and a copy thereof shall be forwarded to OSHA within 48 hours following the occurrence of the accident, death, injury, or decompression illness. It shall state as fully as possible the cause of said death or decompression illness, and the place where the injured or sick employee was taken, and such other relative information as may be required by the Secretary.

(7) A fully equipped first aid station shall be provided at each tunnel project regardless of the number of persons employed. An ambulance or transportation suitable for a litter case shall be at each project.

(8) Where tunnels are being excavated from portals more than 5 road miles apart, a first aid station and transportation facilities shall be provided at each portal.

(9) A medical lock shall be established and maintained in immediate working order whenever air pressure in the working chamber is increased above the normal atmosphere.

(10) The medical lock shall:

- (i) Have at least 6 feet of clear headroom at the center, and be subdivided into not less than two compartments;
- (ii) Be readily accessible to employees working under compressed air;
- (iii) Be kept ready for immediate use for at least 5 hours subsequent to the emergence of any employee from the working chamber;
- (iv) Be properly heated, lighted and ventilated;
- (v) Be maintained in a sanitary condition;
- (vi) Have a nonshatterable port through which the occupant(s) may be kept under constant observation;
- (vii) Be designed for a working pressure of 75 p.s.i.g.
- (viii) Be equipped with internal controls which may be overridden by external controls;
- (ix) Be provided with air pressure gauges to show the air pressure within each compartment to observers inside and outside the medical lock.
- (x) Be equipped with a manual type sprinkler system that can be activated inside the lock or by the outside lock tender.
- (xi) Be provided with oxygen lines and fittings leading into external tanks. The lines shall be fitted with check valves to prevent reverse flow. The oxygen system inside the chamber shall be of a closed circuit design and be so designed as to automatically shut off the oxygen supply whenever the fire system is activated.
- (xii) Be in constant charge of an attendant under the direct control of the retained physician. The attendant shall be trained in the use of the lock and suitably instructed regarding steps to be taken in the treatment of employee exhibiting symptoms compatible with a diagnosis of decompression illness;
- (xiii) Be adjacent to an adequate emergency medical facility;
- (xiv) The medical facility shall be equipped with demand-type oxygen inhalation equipment approved by the U.S. Bureau of Mines;
- (xv) Be capable of being maintained at a temperature, in use, not to exceed 90° F. nor be less than 70° F.; and
- (xvi) Be provided with sources of air, free of oil and carbon monoxide, for normal and emergency use, which are capable of raising the air pressure in the lock from 0 to 75 p.s.i.g. in 5 minutes.
- (11) Identification badges shall be furnished to all employees, indicating that the wearer is a compressed air worker. A permanent record shall be kept of all identification badges issued. The badge shall give the employee's name, address of the medical lock, the telephone number of the licensed physician for the compressed air project, and contain instructions that in case of emergency of unknown or doubtful cause or illness, the wearer shall be rushed to the medical lock. The badge shall be worn at all times—off the job, as well as on the job.
- (c) Telephone and signal communication. (1) Effective and reliable means of

communication, such as bells, whistles, or telephones, shall be maintained at all times between all the following locations:

- (i) The working chamber face;
- (ii) The working chamber side of the man lock near the door;
- (iii) The interior of the man lock;
- (iv) Lock attendant's station;
- (v) The compressor plant;
- (vi) The first-aid station;
- (vii) The emergency lock (if one is required); and
- (viii) The special decompression chamber (if one is required).
- (d) Signs and records. (1) The time of decompression shall be posted in each man lock as follows:

TIME OF DECOMPRESSION FOR THIS LOCK
----- pounds to ----- pounds in ----- minutes.
----- pounds to ----- pounds in ----- minutes.
(Signed by) -----
(Superintendent)

This form shall be posted in the Man Lock at all times.

(2) Any code of signals used shall be conspicuously posted near workplace entrances and such other locations as may be necessary to bring them to the attention of all employees concerned.

(3) For each 8-hour shift, a record of employees employed under air pressure shall be kept by an employee who shall remain outside the lock near the entrance. This record shall show the period each employee spends in the air chamber and the time taken from decompression. A copy shall be submitted to the appointed physician after each shift.

(e) Compression. (1) Every employee going under air pressure for the first time shall be instructed on how to avoid excessive discomfort.

(2) During the compression of employees, the pressure shall not be increased to more than 3 p.s.i.g. within the first minute. The pressure shall be held at 3 p.s.i.g. and again at 7 p.s.i.g. sufficiently long to determine if any employees are experiencing discomfort.

(3) After the first minute the pressure shall be raised uniformly and at a rate not to exceed 10 p.s.i. per minute.

(4) If any employee complains of discomfort, the pressure shall be held to determine if the symptoms are relieved. If, after 5 minutes the discomfort does not disappear, the lock attendant shall gradually reduce the pressure until the employee signals that the discomfort has ceased. If he does not indicate that the discomfort has disappeared, the lock attendant shall reduce the pressure to atmospheric and the employee shall be released from the lock.

(5) No employee shall be subjected to pressure exceeding 50 pounds per square inch except in emergency.

(f) Decompression. (1) Decompression to normal condition shall be in accordance with the Decompression Tables in Appendix A of this subpart.

(2) In the event it is necessary for an employee to be in compressed air more than once in a 24-hour period, the appointed physician shall be responsible for

the establishment of methods and procedures of decompression applicable to repetitive exposures.

(3) If decanting is necessary, the appointed physician shall establish procedures before any employee is permitted to be decompressed by decanting methods. The period of time that the employees spend at atmospheric pressure between the decompression following the shift and recompression shall not exceed 5 minutes.

(g) Man locks and special decompression chambers—(1) Man locks. (i) Except in emergency, no employees employed in compressed air shall be permitted to pass from the working chamber to atmospheric pressure until after decompression, in accordance with the procedures in this subpart.

(ii) The lock attendant in charge of a man lock shall be under the direct supervision of the appointed physician. He shall be stationed at the lock controls on the free air side during the period of compression and decompression and shall remain at the lock control station whenever there are men in the working chamber or in the man lock.

(iii) Except where air pressure in the working chamber is below 12 p.s.i.g., each man lock shall be equipped with automatic controls which, through taped programs, cams, or similar apparatus, shall automatically regulate decompressions. It shall also be equipped with manual controls to permit the lock attendant to override the automatic mechanism in the event of an emergency, as provided in subdivision (viii) of this subparagraph.

(iv) A manual control, which can be used in the event of an emergency, shall be placed inside the man lock.

(v) A clock, thermometer, and continuous recording pressure gauge with a 4-hour graph shall be installed outside of each man lock and shall be changed prior to each shift's decompression. The chart shall be of sufficient size to register a legible record of variations in pressure within the man lock and shall be visible to the lock attendant. A copy of each graph shall be submitted to the appointed physician after each shift. In addition, a pressure gauge, clock, and thermometer shall also be installed in each man lock. Additional fittings shall be provided so that test gauges may be attached whenever necessary.

(vi) Except where air pressure is below 12 p.s.i.g. and there is no danger of rapid flooding, all caissons having a working area greater than 150 square feet, and each bulkhead in tunnels of 14 feet or more in diameter, or equivalent area, shall have at least two locks in perfect working condition, one of which shall be used exclusively as a man lock, the other, as a materials lock.

(vii) Where only a combination man-and-materials lock is required, this single lock shall be of sufficient capacity to hold the employees constituting two successive shifts.

(viii) Emergency locks shall be large enough to hold an entire heading shift and a limit maintained of 12 p.s.i.g. There shall be a chamber available for

oxygen decompression therapy to 28 p.s.i.g.

(ix) The man lock shall be large enough so that those using it are not compelled to be in a cramped position, and shall not have less than 5 feet clear head room at the center and a minimum of 30 cubic feet of air space per occupant.

(x) Locks on caissons shall be so located that the bottom door shall be not less than 3 feet above the water level surrounding the caisson on the outside. (The water level, where it is affected by tides, is construed to mean high tide.)

(xi) In addition to the pressure gauge in the locks, an accurate pressure gauge shall be maintained on the outer and inner side of each bulkhead. These gauges shall be accessible at all times and shall be kept in accurate working order.

(xii) Man locks shall have an observation port at least 4 inches in diameter located in such a position that all occupants of the man lock may be observed from the working chamber and from the free air side of the lock.

(xiii) Adequate ventilation in the lock shall be provided.

(xiv) Man locks shall be maintained at a minimum temperature of 70° F.

(xv) When locks are not in use and employees are in the working chamber, lock doors shall be kept open to the working chamber, where practicable.

(xvi) Provision shall be made to allow for rescue parties to enter the tunnel if the working force is disabled.

(xvii) A special decompression chamber of sufficient size to accommodate the entire force of employees being decompressed at the end of a shift shall be provided whenever the regularly established working period requires a total time of decompression exceeding 75 minutes.

(2) Special decompression chamber.

(i) The headroom in the special decompression chamber shall be not less than a minimum 7 feet and the cubical content shall provide at least 50 cubic feet of airspace for each employee. For each occupant, there shall be provided 4 square feet of free walking area and 3 square feet of seating space, exclusive of area required for lavatory and toilet facilities. The rated capacity shall be based on the stated minimum space per employee and shall be posted at the chamber entrance. The posted capacity shall not be exceeded, except in case of emergency.

(ii) Each special decompression chamber shall be equipped with the following:

(a) A clock or clocks suitably placed so that the attendant and the chamber occupants can readily ascertain the time;

(b) Pressure gauges which will indicate to the attendants and to the chamber occupants the pressure in the chamber;

(c) Valves to enable the attendant to control the supply and discharge of compressed air into and from the chamber;

(d) Valves and pipes, in connection with the air supply and exhaust, ar-

anged so that the chamber pressure can be controlled from within and without;

(e) Effective means of oral intercommunication between the attendant, occupants of the chamber, and the air compressor plant; and

(f) An observation port at the entrance to permit observation of the chamber occupants.

(iii) Seating facilities in special decompression chambers shall be so arranged as to permit a normal sitting posture without cramping. Seating space, not less than 18 inches by 24 inches wide, shall be provided per occupant.

(iv) Adequate toilet and washing facilities, in a screened or enclosed recess, shall be provided. Toilet bowls shall have a built-in protector on the rim so that an air space is created when the seat lid is closed.

(v) Fresh and pure drinking water shall be available. This may be accomplished by either piping water into the special decompression chamber and providing drinking fountains, or by providing individual canteens, or by some other sanitary means. Community drinking vessels are prohibited.

(vi) No refuse or discarded material of any kind shall be permitted to accumulate, and the chamber shall be kept clean.

(vii) Unless the special decompression chamber is serving as the man lock to atmospheric pressure, the special decompression chamber shall be situated, where practicable, adjacent to the man lock on the atmospheric pressure side of the bulkhead. A passageway shall be provided, connecting the special chamber with the man lock, to permit employees in the process of decompression to move from the man lock to the special chamber without a reduction in the ambient pressure from that designated for the next stage of decompression. The passageway shall be so arranged as to not interfere with the normal operation of the man lock, nor with the release of the occupants of the special chamber to atmospheric pressure upon the completion of the decompression procedure.

(h) Compressor plant and air supply.

(1) At all times there shall be a thoroughly experienced, competent, and reliable person on duty at the air control valves as a gauge tender who shall regulate the pressure in the working areas. During tunneling operations, one gauge tender may regulate the pressure in not more than two headings: *Provided*, That the gauge and controls are all in one location. In caisson work, there shall be a gauge tender for each caisson.

(2) The low air compressor plant shall be of sufficient capacity to not only permit the work to be done safely, but shall also provide a margin to meet emergencies and repairs.

(3) Low air compressor units shall have at least two independent and separate sources of power supply and each shall be capable of operating the entire low air plant and its accessory systems.

(4) The capacity, arrangement, and number of compressors shall be sufficient to maintain the necessary pressure without overloading the equipment and to assure maintenance of such pressure in the working chamber during periods of breakdown, repair, or emergency.

(5) Switching from one independent source of power supply to the other shall be done periodically to ensure the workability of the apparatus in an emergency.

(6) Duplicate low-pressure air feedlines and regulating valves shall be provided between the source of air supply and a point beyond the locks with one of the lines extending to within 100 feet of the working face.

(7) All high- and low-pressure air supply lines shall be equipped with check valves.

(8) Low-pressure air shall be regulated automatically. In addition, manually operated valves shall be provided for emergency conditions.

(9) The air intakes for all air compressors shall be located at a place where fumes, exhaust gases, and other air contaminants will be at a minimum.

(10) Gauges indicating the pressure in the working chamber shall be installed in the compressor building, the lock attendant's station, and at the employer's field office.

(i) *Ventilation and air quality.* (1) Exhaust valves and exhaust pipes shall be provided and operated so that the working chamber shall be well ventilated, and there shall be no pockets of dead air. Outlets may be required at intermediate points along the main low-pressure air supply line to the heading to eliminate such pockets of dead air. Ventilating air shall be not less than 30 cubic feet per minute.

(2) The air in the workplace shall be analyzed by the employer not less than once each shift, and records of such tests shall be kept on file at the place where the work is in progress. The test results shall be within the threshold limit values specified in Subpart D of this part, for hazardous gases, and within 10 percent of the lower explosive limit of flammable gases. If these limits are not met, immediate action to correct the situation shall be taken by the employer.

(3) The temperature of all working chambers which are subjected to air pressure shall, by means of after-coolers or other suitable devices, be maintained at a temperature not to exceed 85° F.

(4) Forced ventilation shall be provided during decompression. During the entire decompression period, forced ventilation through chemical or mechanical air purifying devices that will ensure a source of fresh air shall be provided.

(5) Whenever heat-producing machines (moles, shields) are used in compressed air tunnel operations, a positive means of removing the heat build-up at the heading shall be provided.

(j) *Electricity.* (1) All lighting in compressed-air chambers shall be by electricity exclusively, and two independent electric-lighting systems with independent sources of supply shall be used. The emergency source shall be

arranged to become automatically operative in the event of failure of the regularly used source.

(2) The minimum intensity of light on any walkway, ladder, stairway, or working level shall be not less than 10 foot-candles, and in all workplaces the lighting shall at all times be such as to enable employees to see clearly.

(3) All electrical equipment, and wiring for light and power circuits, shall comply with requirements of the National Electrical Code, ANSI C1-1971 (Rev. of 1968) for use in damp, hazardous, high temperature, and compressed air environments.

(4) External parts of lighting fixtures and all other electrical equipment, when within 8 feet of the floor, shall be constructed of noncombustible, nonabsorptive, insulating materials, except that metal may be used if it is effectively grounded.

(5) Portable lamps shall be equipped with noncombustible, nonabsorptive, insulating sockets, approved handles, basket guards, and approved cords.

(6) The use of worn or defective portable and pendant conductors is prohibited.

(k) *Sanitation.* (1) Sanitary, heated, lighted, and ventilated dressing rooms and drying rooms shall be provided for all employees engaged in compressed air work. Such rooms shall contain suitable benches and lockers. Bathing accommodations (showers at the ratio of one to 10 employees per shift), equipped with running hot and cold water, and suitable and adequate toilet accommodations, shall be provided. One toilet for each 15 employees, or fractional part thereof, shall be provided.

(2) When the toilet bowl is shut by a cover, there should be an air space so that the bowl or bucket does not implode when pressure is increased.

(3) All parts of caissons and other working compartments shall be kept in a sanitary condition.

(l) *Fire prevention and protection.* (1) Firefighting equipment shall be available at all times and shall be maintained in working condition.

(2) While welding or flame-cutting is being done in compressed air, a fire-watch with a fire hose or approved extinguisher shall stand by until such operation is completed.

(3) Shafts and caissons containing flammable material of any kind, either above or below ground, shall be provided with a waterline and a fire hose connected thereto, so arranged that all points of the shaft or caisson are within reach of the hose stream.

(4) Fire hose shall be at least 1½ inches in nominal diameter; the water pressure shall at all times be adequate for efficient operation of the type of nozzle used; and the water supply shall be such as to ensure an uninterrupted flow. Fire hose, when not in use, shall be located or guarded to prevent injury thereto.

(5) The power house, compressor house, and all buildings housing ventilating equipment, shall be provided with at least one hose connection in the water-

line, with a fire hose connected thereto. A fire hose shall be maintained within reach of structures of wood over or near shafts.

(6) Tunnels shall be provided with a 2-inch minimum diameter waterline extending into the working chamber and to within 100 feet of the working face. Such line shall have hose outlets with 100 feet of fire hose attached and maintained as follows: One at the working face; one immediately inside of the bulkhead of the working chamber; and one immediately outside such bulkhead. In addition, hose outlets shall be provided at 200-foot intervals throughout the length of the tunnel, and 100 feet of fire hose shall be attached to the outlet nearest to any location where flammable material is being kept or stored or where any flame is being used.

(7) In addition to fire hose protection required by this subpart, on every floor of every building not under compressed air, but used in connection with the compressed air work, there shall be provided at least one approved fire extinguisher of the proper type for the hazard involved. At least two approved fire extinguishers shall be provided in the working chamber as follows: One at the working face and one immediately inside the bulkhead (pressure side). Extinguishers in the working chamber shall use water as the primary extinguishing agent and shall not use any extinguishing agent which could be harmful to the employees in the working chamber. The fire extinguisher shall be protected from damage.

(8) Highly combustible materials shall not be used or stored in the working chamber. Wood, paper, and similar combustible material shall not be used in the working chamber in quantities which could cause a fire hazard. The compressor building shall be constructed of non-combustible material.

(9) Man locks shall be equipped with a manual type fire extinguisher system that can be activated inside the man lock and also by the outside lock attendant. In addition, a fire hose and portable fire extinguisher shall be provided inside and outside the man lock. The portable fire extinguisher shall be the dry chemical type.

(10) Equipment, fixtures, and furniture in man locks and special decompression chambers shall be constructed of noncombustible materials. Bedding, etc., shall be chemically treated so as to be fire resistant.

(11) Head frames shall be constructed of structural steel or open frame-work fireproofed timber. Head houses and other temporary surface buildings or structures within 100 feet of the shaft, caisson, or tunnel opening shall be built of fire-resistant materials.

(12) No oil, gasoline, or other combustible material shall be stored within 100 feet of any shaft, caisson, or tunnel opening, except that oils may be stored in suitable tanks in isolated fireproof buildings, provided such buildings are not less than 50 feet from any shaft, caisson, or tunnel opening, or any building directly connected thereto.

(13) Positive means shall be taken to prevent leaking flammable liquids from flowing into the areas specifically mentioned in the preceding paragraph.

(14) All explosives used in connection with compressed air work shall be selected, stored, transported, and used as specified in Subpart U of this part.

(m) *Bulkheads and safety screens.* (1) Intermediate bulkheads with locks, or intermediate safety screens or both, are required where there is the danger of rapid flooding.

(2) In tunnels 16 feet or more in diameter, hanging walkways shall be provided from the face to the man lock as high in the tunnel as practicable, with at least 6 feet of head room. Walkways shall be constructed of noncombustible material. Standard railings shall be securely installed throughout the length of all walkways on open sides in accordance with Subpart M of this part. Where walkways are ramped under safety screens, the walkway surface shall be skidproofed by cleats or by equivalent means.

(3) Bulkheads used to contain compressed air shall be tested, where practicable, to prove their ability to resist the highest air pressure which may be expected to be used.

§ 1926.804 Definitions applicable to this subpart.

(a) "Bulkhead"—An airtight structure separating the working chamber from free air or from another chamber under a lesser pressure than the working pressure.

(b) "Caisson"—A wood, steel, concrete or reinforced concrete, air- and watertight chamber in which it is possible for men to work under air pressure greater than atmospheric pressure to excavate material below water level.

(c) "Decanting"—A method used for decompressing under emergency circumstances. In this procedure, the employees are brought to atmospheric pressure with a very high gas tension in the tissues and then immediately recompressed in a second and separate chamber or lock.

(d) "Emergency locks"—A lock designed to hold and permit the quick passage of an entire shift of employees.

(e) "High air"—Air pressure used to supply power to pneumatic tools and devices.

(f) "Low air"—Air supplied to pressurize working chambers and locks.

(g) "Man lock"—A chamber through which men pass from one air pressure environment into another.

(h) "Materials lock"—A chamber through which materials and equipment pass from one air pressure environment into another.

(i) "Medical lock"—A special chamber in which employees are treated for decompression illness. It may also be used in preemployment physical examinations to determine the adaptability of the prospective employee to changes in pressure.

(j) "Normal condition"—One during which exposure to compressed air is limited to a single continuous working period followed by a single decompression in any given 24-hour period; the total time of exposure to compressed air

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during the single continuous working period is not interrupted by exposure to normal atmospheric pressure, and a second exposure to compressed air does not occur until at least 12 consecutive hours of exposure to normal atmospheric pressure has elapsed since the employee has been under pressure.

(k) "Pressure"—A force acting on a unit area. Usually shown as pounds per square inch. (p.s.i.)

(l) "Absolute pressure" (p.s.a.)—The sum of the atmospheric pressure and gauge pressure (p.s.g.).

(m) "Atmospheric pressure"—The pressure of air at sea level, usually 14.7 p.s.a. (1 atmosphere), or 0 p.s.g.

(n) "Gauge pressure" (p.s.g.)—Pressure measured by a gauge and indicating the pressure exceeding atmospheric.

(o) "Safety screen"—An air- and water-tight diaphragm placed across the upper part of a compressed air tunnel between the face and bulkhead, in order to prevent flooding the crown of the tunnel between the safety screen and the bulkhead, thus providing a safe means of refuge and exit from a flooding or flooded tunnel.

(p) "Special decompression chamber"—A chamber to provide greater comfort for employees when the total decompression time exceeds 75 minutes.

(q) "Working chamber"—The space or compartment under air pressure in which the work is being done.

Higher Value of Working Chamber Pressure or Exposure Time Should the Actual Working Chamber Pressure or the Actual Exposure Time, Respectively, Fall Between Those for Which Calculated Values Are Shown in the Body of the Tables.

Examples:

Example No. 1:

4 hours working period at 20 pounds gauge.

Decompression Table No. 1: 20 pounds for 4 hours, total decompression time. 43 minutes.

Decompression Table No. 2:

Stage 1: Reduce pressure from 20 pounds to 4 pounds at the uniform rate of 5 pounds per minute.

Elapsed time stage 1: $\frac{16}{5}$ 3 minutes.

Stage 2 (final stage): Reduce pressure at a uniform rate from 4 pounds to 0-pound gauge over a period of 40 minutes.

Rate—0.10 pound per minute or 10 minutes per pound.

Stage 2 (final) elapsed time. 40 minutes.

Total time..... 43 minutes.

Example No. 2:

5-hour working period at 24 pounds gauge.

Decompression Table No. 1: 24 pounds for 5 hours, total decompression time. 117 minutes.

Decompression Table No. 2:

Stage 1: Reduce pressure from 24 pounds to 8 pounds at the uniform rate of 5 pounds per minute.

Elapsed time stage 1: $\frac{16}{5}$ 3 minutes.

Stage 2: Reduce pressure at a uniform rate from 8 pounds to 4 pounds over a period of 4 minutes. Rate, 1 pound per minute elapsed time, stage 2..... 4 minutes.

Transfer men to special decompression chamber maintaining the 4-pound pressure during the transfer operation.

Stage 3 (final stage): In the special decompression chamber, reduce the pressure at a uniform rate from 4 pounds to 0-pound gauge over a period of 110 minutes. Rate, 0.037 pound per minute or 27.5 minutes per pound. Stage 3 (final) elapsed time.... 110 minutes.

Total time..... 117 minutes.

APPENDIX A

DECOMPRESSION TABLES

1. Explanation. The decompression tables are computed for working chamber pressures from 0 to 14 pounds, and from 14 to 50 pounds per square inch gauge inclusive by 2-pound increments and for exposure times for each pressure extending from one-half to over 8 hours inclusive. Decompressions will be conducted by two or more stages with a maximum of four stages, the latter for a working chamber pressure of 40 pounds per square inch gauge or over.

Stage 1 consists of a reduction in ambient pressure ranging from 10 to a maximum of 16 pounds per square inch, but in no instance will the pressure be reduced below 4 pounds at the end of stage 1. This reduction in pressure in stage 1 will always take place at a rate not greater than 5 pounds per minute.

Further reduction in pressure will take place during stage 2 and subsequent stages as required at a slower rate, but in no event at a rate greater than 1 pound per minute.

Decompression Table No. 1 indicates in the body of the table the total decompression time in minutes for various combinations of working chamber pressure and exposure time.

Decompression Table No. 2 indicates for the same various combinations of working chamber pressure and exposure time the following:

- The number of stages required;
- The reduction in pressure and the terminal pressure for each required stage;
- The time in minutes through which the reduction in pressure is accomplished for each required stage;
- The pressure reduction rate in minutes per pound for each required stage;

IMPORTANT NOTE: The Pressure Reduction in Each Stage is Accomplished at a Uniform Rate. Do Not Interpolate Between Values Shown on the Tables. Use the Next

DECOMPRESSION TABLE NO. 1—TOTAL DECOMPRESSION TIME

Work pressure p.s.i.g.	Working period hours										
	$\frac{1}{2}$	1	1½	2	3	4	5	6	7	8	Over 8
0-12	3	3	3	3	3	3	3	3	3	3	3
14	6	6	6	6	6	6	6	6	16	16	33
16	7	7	7	7	7	7	17	33	48	48	62
18	7	7	7	8	11	17	48	63	63	73	87
20	7	7	8	15	15	43	63	73	83	103	113
22	9	9	16	24	38	68	93	103	113	128	133
24	11	12	23	27	62	92	117	122	127	137	151
26	13	14	29	34	69	104	126	141	142	142	163
28	15	23	31	41	98	127	143	153	153	165	183
30	17	28	38	62	105	143	165	168	178	188	204
32	19	35	43	85	126	163	178	193	203	213	226
34	21	39	58	98	151	178	195	218	223	233	248
36	24	44	63	113	170	198	223	233	243	253	273
38	28	49	73	128	178	203	223	238	253	263	278
40	31	49	84	143	183	213	233	248	258	278	288
42	37	56	102	144	189	215	245	260	263	268	293
44	43	64	118	154	199	234	254	264	269	269	318
46	44	74	139	171	214	244	269	274	289	299	
48	51	89	144	189	229	269	299	309	319	319	
50	58	94	164	209	249	279	309	329			

DECOMPRESSION TABLE NO. 2

(Do not interpolate, use next higher value for conditions not computed.)

Working chamber pressure P.s.i.g.	Working period Hours	Decompression data					
		Stage No.	Pressure reduction P.s.i.g.		Time in stage Minutes	Pressure reduction rate Min./Pound	Total time decompress Minutes
			From	To			
14	½	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	1	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	1½	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	2	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	3	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	4	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	5	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	6	1	14	4	2	0.20	6
		2	4	0	4	1.00	6
	7	1	14	4	2	0.20	16
		2	4	0	14	3.50	16
	8	1	14	4	2	0.20	16
		2	4	0	14	3.50	16
	Over 8	1	14	4	2	0.20	32
		2	4	0	30	7.50	32

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DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Decompression data		Pressure reduction rate Min/Pound	Time in stage Minutes	Total time decompress Minutes
			From	To			
22	3	1	22	6	0.20	3	38
	4	2	22	6	0.20	35	
	5	3	22	6	0.20	65	68
	6	4	22	6	0.20	90	93
	7	5	22	6	0.20	100	103
	8	6	22	6	0.20	110	113
	Over 8	7	22	6	0.20	125	128
24	1/2	1	24	8	0.20	130	
	1	2	24	8	0.20	140	
	1 1/2	3	24	8	0.20	150	
	2	4	24	8	0.20	160	
	3	5	24	8	0.20	170	
	4	6	24	8	0.20	180	
	5	7	24	8	0.20	190	
	6	8	24	8	0.20	200	
	7	9	24	8	0.20	210	
	8	10	24	8	0.20	220	
	Over 8	11	24	8	0.20	230	
26	1/2	1	26	10	0.20	240	
	1	2	26	10	0.20	250	
	1 1/2	3	26	10	0.20	260	
	2	4	26	10	0.20	270	
	3	5	26	10	0.20	280	
	4	6	26	10	0.20	290	
	5	7	26	10	0.20	300	
	6	8	26	10	0.20	310	
	7	9	26	10	0.20	320	
	8	10	26	10	0.20	330	
	Over 8	11	26	10	0.20	340	
28	1/2	1	28	12	0.20	350	
	1	2	28	12	0.20	360	
	1 1/2	3	28	12	0.20	370	
	2	4	28	12	0.20	380	
	3	5	28	12	0.20	390	
	4	6	28	12	0.20	400	
	5	7	28	12	0.20	410	
	6	8	28	12	0.20	420	
	7	9	28	12	0.20	430	
	8	10	28	12	0.20	440	
	Over 8	11	28	12	0.20	450	
30	1/2	1	30	14	0.20	460	
	1	2	30	14	0.20	470	
	1 1/2	3	30	14	0.20	480	
	2	4	30	14	0.20	490	
	3	5	30	14	0.20	500	
	4	6	30	14	0.20	510	
	5	7	30	14	0.20	520	
	6	8	30	14	0.20	530	
	7	9	30	14	0.20	540	
	8	10	30	14	0.20	550	
	Over 8	11	30	14	0.20	560	
32	1/2	1	32	16	0.20	570	
	1	2	32	16	0.20	580	
	1 1/2	3	32	16	0.20	590	
	2	4	32	16	0.20	600	
	3	5	32	16	0.20	610	
	4	6	32	16	0.20	620	
	5	7	32	16	0.20	630	
	6	8	32	16	0.20	640	
	7	9	32	16	0.20	650	
	8	10	32	16	0.20	660	
	Over 8	11	32	16	0.20	670	
34	1/2	1	34	18	0.20	680	
	1	2	34	18	0.20	690	
	1 1/2	3	34	18	0.20	700	
	2	4	34	18	0.20	710	
	3	5	34	18	0.20	720	
	4	6	34	18	0.20	730	
	5	7	34	18	0.20	740	
	6	8	34	18	0.20	750	
	7	9	34	18	0.20	760	
	8	10	34	18	0.20	770	
	Over 8	11	34	18	0.20	780	
36	1/2	1	36	20	0.20	790	
	1	2	36	20	0.20	800	
	1 1/2	3	36	20	0.20	810	
	2	4	36	20	0.20	820	
	3	5	36	20	0.20	830	
	4	6	36	20	0.20	840	
	5	7	36	20	0.20	850	
	6	8	36	20	0.20	860	
	7	9	36	20	0.20	870	
	8	10	36	20	0.20	880	
	Over 8	11	36	20	0.20	890	
38	1/2	1	38	22	0.20	900	
	1	2	38	22	0.20	910	
	1 1/2	3	38	22	0.20	920	
	2	4	38	22	0.20	930	
	3	5	38	22	0.20	940	
	4	6	38	22	0.20	950	
	5	7	38	22	0.20	960	
	6	8	38	22	0.20	970	
	7	9	38	22	0.20	980	
	8	10	38	22	0.20	990	
	Over 8	11	38	22	0.20	1000	

DECOMPRESSION TABLE No. 2—Continued

Decompression data						
Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Pressure reduction P.s.i.g.		Time in stage Minutes	Total time decompress Minutes
			From	To		
16	1/2	1	16	4	3	7
	1	2	16	0	4	7
	1 1/2	3	16	0	4	7
	2	4	16	0	4	7
	3	5	16	0	4	7
	4	6	16	0	4	7
	5	7	16	0	4	7
	6	8	16	0	4	7
	7	9	16	0	4	7
	8	10	16	0	4	7
	Over 8	11	16	0	4	7
18	1/2	1	18	4	3	33
	1	2	18	0	3	33
	1 1/2	3	18	0	3	33
	2	4	18	0	3	33
	3	5	18	0	3	33
	4	6	18	0	3	33
	5	7	18	0	3	33
	6	8	18	0	3	33
	7	9	18	0	3	33
	8	10	18	0	3	33
	Over 8	11	18	0	3	33
20	1/2	1	20	4	3	48
	1	2	20	0	3	48
	1 1/2	3	20	0	3	48
	2	4	20	0	3	48
	3	5	20	0	3	48
	4	6	20	0	3	48
	5	7	20	0	3	48
	6	8	20	0	3	48
	7	9	20	0	3	48
	8	10	20	0	3	48
	Over 8	11	20	0	3	48
22	1/2	1	22	4	3	63
	1	2	22	0	3	63
	1 1/2	3	22	0	3	63
	2	4	22	0	3	63
	3	5	22	0	3	63
	4	6	22	0	3	63
	5	7	22	0	3	63
	6	8	22	0	3	63
	7	9	22	0	3	63
	8	10	22	0	3	63
	Over 8	11	22	0	3	63
24	1/2	1	24	6	3	73
	1	2	24	0	3	73
	1 1/2	3	24	0	3	73
	2	4	24	0	3	73
	3	5	24	0	3	73
	4	6	24	0	3	73
	5	7	24	0	3	73
	6	8	24	0	3	73
	7	9	24	0	3	73
	8	10	24	0	3	73
	Over 8	11	24	0	3	73
26	1/2	1	26	6	3	83
	1	2	26	0	3	83
	1 1/2	3	26	0	3	83
	2	4	26	0	3	83
	3	5	26	0	3	83
	4	6	26	0	3	83
	5	7	26	0	3	83
	6	8	26	0	3	83
	7	9	26	0	3	83
	8	10	26	0	3	83
	Over 8	11	26	0	3	83
28	1/2	1	28	6	3	93
	1	2	28	0	3	93
	1 1/2	3	28	0	3	93
	2	4	28	0	3	93
	3	5	28	0	3	93
	4	6	28	0	3	93
	5	7	28	0	3	93
	6	8	28	0	3	93
	7	9	28	0	3	93
	8	10	28	0	3	93
	Over 8	11	28	0	3	93
30	1/2	1	30	6	3	103
	1	2	30	0	3	103
	1 1/2	3	30	0	3	103
	2	4	30	0	3	103
	3	5	30	0	3	103
	4	6	30	0	3	103
	5	7	30	0	3	103
	6	8	30	0	3	103
	7	9	30	0	3	103
	8	10	30	0	3	103
	Over 8	11	30	0	3	103
32	1/2	1	32	6	3	113
	1	2	32	0	3	113
	1 1/2	3	32	0	3	113
	2	4	32	0	3	113
	3	5	32	0	3	113
	4	6	32	0	3	113
	5	7	32	0	3	113
	6	8	32	0	3	113
	7	9	32	0	3	113
	8	10	32	0	3	113
	Over 8	11	32	0	3	113
34	1/2	1	34	6	3	123
	1	2	34	0	3	123
	1 1/2	3	34	0	3	123
	2	4	34	0	3	123
	3	5	34	0	3	123
	4	6	34	0	3	123
	5	7	34	0	3	123
	6	8	34	0	3	123
	7	9	34	0	3	123
	8	10	34	0	3	123
	Over 8	11	34	0	3	123

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DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Decompression data		Pressure reduction P.s.i.g.	Time in stage Minutes	Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To				
32	1 1/4	1	32	16	3	12	0.20	19
		2	16	4	4	4	1.00	
		3	4	0	4	4	0.20	
	1	1	32	16	4	12	1.00	35
		2	16	4	4	20	5.00	
		3	4	0	4	3	0.20	
	1 1/4	1	32	16	4	16	1.25	43
		2	16	4	4	25	6.25	
		3	4	0	4	3	0.20	
	2	1	32	16	4	22	1.83	85
		2	16	4	4	60	15.00	
		3	4	0	4	3	0.20	
	3	1	32	16	4	28	2.33	126
		2	16	4	4	95	23.75	
		3	4	0	4	3	0.20	
	4	1	32	16	4	40	3.33	163
		2	16	4	4	120	30.00	
		3	4	0	4	3	0.20	
	5	1	32	16	4	48	4.75	178
		2	16	4	4	130	32.50	
		3	4	0	4	3	0.20	
	6	1	32	16	4	60	5.00	193
		2	16	4	4	130	32.50	
		3	4	0	4	3	0.20	
	7	1	32	16	4	70	5.83	203
		2	16	4	4	130	32.50	
		3	4	0	4	3	0.20	
	8	1	32	16	4	80	6.67	213
		2	16	4	4	130	32.50	
		3	4	0	4	3	0.20	
	Over 8	1	32	16	4	93	7.75	226
		2	16	4	4	130	32.50	
		3	4	0	4	3	0.20	
34	1 1/4	1	34	18	4	14	1.00	21
		2	18	4	4	4	1.00	
		3	4	0	4	3	0.20	
	1	1	34	18	4	14	1.00	39
		2	18	4	4	22	5.50	
		3	4	0	4	3	0.20	
	1 1/4	1	34	18	4	18	1.80	68
		2	18	4	4	25	7.50	
		3	4	0	4	3	0.20	
	2	1	34	18	4	35	2.50	98
		2	18	4	4	60	15.00	
		3	4	0	4	3	0.20	
	3	1	34	18	4	43	3.10	161
		2	18	4	4	105	26.25	
		3	4	0	4	3	0.20	
	4	1	34	18	4	55	3.93	178
		2	18	4	4	120	30.00	
		3	4	0	4	3	0.20	
	5	1	34	18	4	62	4.43	195
		2	18	4	4	130	32.50	
		3	4	0	4	3	0.20	
	6	1	34	18	4	85	6.07	218
		2	18	4	4	130	32.50	
		3	4	0	4	3	0.20	
	7	1	34	18	4	90	6.43	223
		2	18	4	4	130	32.50	
		3	4	0	4	3	0.20	
	8	1	34	18	4	100	7.75	233
		2	18	4	4	130	32.50	
		3	4	0	4	3	0.20	
	Over 8	1	34	18	4	115	8.33	248
		2	18	4	4	130	32.50	
		3	4	0	4	3	0.20	
36	1 1/4	1	36	20	4	18	1.00	24
		2	20	4	4	5	1.25	
		3	4	0	4	3	0.20	
	1	1	36	20	4	18	1.00	44
		2	20	4	4	25	6.25	

DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Decompression data		Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To		
26	8	1	26	10	3	0.20
		2	10	4	0	1.50
		3	4	0	0	32.50
	Over 8	1	26	10	3	0.20
		2	10	4	0	5.00
		3	4	0	0	32.50
28	1 1/4	1	28	12	3	0.20
		2	12	4	0	1.00
		3	4	0	0	1.00
	1	1	28	12	3	0.20
		2	12	4	0	3.00
		3	4	0	0	1.00
	1 1/4	1	28	12	3	0.20
		2	12	4	0	5.00
		3	4	0	0	1.00
	2	1	28	12	3	0.20
		2	12	4	0	7.50
		3	4	0	0	1.00
	3	1	28	12	3	0.20
		2	12	4	0	1.25
		3	4	0	0	21.20
	4	1	28	12	3	0.20
		2	12	4	0	2.50
		3	4	0	0	1.75
	5	1	28	12	3	0.20
		2	12	4	0	30.00
		3	4	0	0	2.50
	6	1	28	12	3	0.20
		2	12	4	0	32.50
		3	4	0	0	2.50
	7	1	28	12	3	0.20
		2	12	4	0	4.00
		3	4	0	0	32.50
	8	1	28	12	3	0.20
		2	12	4	0	6.25
		3	4	0	0	32.50
	Over 8	1	28	12	3	0.20
		2	12	4	0	1.00
		3	4	0	0	1.00
30	1 1/4	1	30	14	4	0.20
		2	14	4	0	1.00
		3	4	0	0	1.00
	1	1	30	14	4	0.20
		2	14	4	0	3.75
		3	4	0	0	1.00
	1 1/4	1	30	14	4	0.20
		2	14	4	0	6.25
		3	4	0	0	1.00
	2	1	30	14	4	0.20
		2	14	4	0	1.40
		3	4	0	0	1.25
	3	1	30	14	4	0.20
		2	14	4	0	1.70
		3	4	0	0	21.20
	4	1	30	14	4	0.20
		2	14	4	0	3.00
		3	4	0	0	27.50
	5	1	30	14	4	0.20
		2	14	4	0	3.50
		3	4	0	0	32.50
	6	1	30	14	4	0.20
		2	14	4	0	4.50
		3	4	0	0	32.50
	7	1	30	14	4	0.20
		2	14	4	0	5.50
		3	4	0	0	32.50
	8	1	30	14	4	0.20
		2	14	4	0	7.10
		3	4	0	0	32.50
	Over 8	1	30	14	4	0.20
		2	14	4	0	32.50
		3	4	0	0	32.50

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DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Pressure reduction P.s.i.g.		Time in stage Minutes	Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To			
40	2	2	40	24	3	0.20	
		3	24	8	25	1.56	
		4	8	4	20	5.00	143
	3	1	4	0	95	23.75	
		2	4	0	3	0.20	
		3	4	0	30	1.88	
		4	4	0	30	7.50	183
	4	1	4	0	120	30.00	
		2	4	0	45	2.81	
		3	4	0	35	8.75	213
		4	4	0	130	32.50	
	5	1	4	0	47	0.20	
		2	4	0	83	2.94	
		3	4	0	130	13.25	233
		4	4	0	3	32.50	
	6	1	4	0	55	0.20	
		2	4	0	130	3.44	
		3	4	0	60	13.00	245
		4	4	0	130	32.50	
	7	1	4	0	65	0.20	
		2	4	0	60	1.06	
		3	4	0	130	15.00	258
		4	4	0	3	32.50	
	8	1	4	0	75	0.20	
		2	4	0	60	4.70	
		3	4	0	130	15.00	268
		4	4	0	3	32.50	
	Over 8	1	4	0	95	0.20	
		2	4	0	60	5.93	
		3	4	0	130	15.00	288
		4	4	0	3	32.50	
42	1½	1	42	26	16	1.00	
		2	26	10	6	1.00	
		3	10	4	12	3.00	37
		4	4	0	16	0.20	
	1	1	42	26	3	0.20	
		2	26	10	12	2.00	
		3	10	4	25	6.25	56
		4	4	0	3	0.20	
	1½	1	42	26	16	1.00	
		2	26	10	60	3.83	102
		3	10	4	3	15.00	
		4	4	0	16	0.20	
	2	1	42	26	3	0.20	
		2	26	10	30	5.00	144
		3	10	4	96	23.75	
		4	4	0	3	0.20	
	3	1	42	26	16	1.00	
		2	26	10	16	8.34	189
		3	10	4	120	30.00	
		4	4	0	3	0.20	
	4	1	42	26	65	1.06	
		2	26	10	17	10.83	215
		3	10	4	130	32.50	
		4	4	0	27	0.20	
	5	1	42	26	85	1.09	
		2	26	10	130	14.40	245
		3	10	4	3	32.50	
		4	4	0	27	0.20	
	6	1	42	26	100	16.67	260
		2	26	10	130	32.50	
		3	10	4	3	0.20	
		4	4	0	100	16.67	263
		1	42	26	35	0.20	
		2	26	10	100	2.19	
		3	10	4	130	16.67	268
		4	4	0	3	32.50	

DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Pressure reduction P.s.i.g.		Time in stage Minutes	Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To			
26	1½	1	36	20	3	0.20	
		2	20	4	30	1.88	63
		3	4	0	30	7.50	
	2	1	36	20	3	0.20	
		2	20	4	40	17.50	113
		3	4	0	70	3.25	
	3	1	36	20	3	0.20	
		2	20	4	62	8.25	
		3	4	0	115	28.75	170
	4	1	36	20	3	0.20	
		2	20	4	65	4.06	
		3	4	0	130	32.50	198
	5	1	36	20	3	0.20	
		2	20	4	90	5.63	
		3	4	0	130	32.50	223
	6	1	36	20	3	0.20	
		2	20	4	100	6.25	
		3	4	0	130	32.50	233
	7	1	36	20	3	0.20	
		2	20	4	110	6.88	
		3	4	0	130	32.50	243
	8	1	36	20	3	0.20	
		2	20	4	120	7.50	
		3	4	0	130	32.50	253
	Over 8	1	36	20	4	8.75	
		2	20	4	140	0.20	273
		3	4	0	130	32.50	
	1½	1	38	22	6	1.00	
		2	22	6	16	1.00	28
		3	6	0	9	0.20	
	1	1	38	22	6	1.00	
		2	22	6	16	1.00	49
		3	6	0	30	5.00	
	1½	1	38	22	6	1.25	
		2	22	6	20	8.34	
		3	6	0	30	0.20	73
	2	1	38	22	6	1.88	
		2	22	6	30	0.20	
		3	6	0	36	15.83	128
	3	1	38	22	6	0.20	
		2	22	6	36	2.19	
		3	6	0	110	8.70	178
	4	1	38	22	6	0.20	
		2	22	6	50	0.20	
		3	6	0	150	25.00	203
	5	1	38	22	6	3.44	
		2	22	6	65	27.50	
		3	6	0	165	0.20	223
	6	1	38	22	6	4.38	
		2	22	6	70	27.50	
		3	6	0	165	0.20	238
	7	1	38	22	6	5.32	
		2	22	6	85	27.50	
		3	6	0	165	0.20	253
	8	1	38	22	6	5.93	
		2	22	6	95	27.50	
		3	6	0	175	0.20	263
	Over 8	1	38	22	6	6.88	
		2	22	6	110	27.50	
		3	6	0	165	0.20	278
	1½	1	40	24	8	1.00	
		2	24	8	16	1.00	
		3	8	4	4	0.20	31
	1	1	40	24	8	0.20	
		2	24	8	8	1.00	
		3	8	4	16	1.25	49
	1½	1	40	24	8	0.20	
		2	24	8	25	6.25	
		3	8	4	3	1.00	
		4	4	0	16	3.00	84
		5	4	0	45	11.25	

RULES AND REGULATIONS

DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Decompression data		Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To		
46	5	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	269
	6	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	274
	7	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	289
	8	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	299
	Over 8	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	318
48	1/2	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	51
	1	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	89
	1 1/2	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	144
	2	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	189
	3	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	229
	4	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	269
	5	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	299
	6	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	309
	7	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	319
	8	1	48	32	0.20	
		2	32	16	1.00	
		3	16	4	12.00	319
50	1 1/2	1	50	34	0.20	
		2	34	18	1.00	
		3	18	4	12.00	58
	1	1	50	34	0.20	
		2	34	18	1.00	
		3	18	4	12.00	94

DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Stage No.	Decompression data		Pressure reduction rate Min/Pound	Total time decompress Minutes
			From	To		
42	Over 8	1	42	26	0.20	
		2	26	10	3.75	
		3	10	4	16.00	293
44	1/2	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	43
	1	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	64
	1 1/2	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	118
	2	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	154
	3	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	199
	4	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	234
	5	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	254
	6	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	264
	7	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	269
	8	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	269
	Over 8	1	44	28	0.20	
		2	28	12	3.00	
		3	12	4	16.00	293
	46	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	44
	1	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	74
	1 1/2	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	139
	2	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	171
	3	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	214
	4	1	46	30	0.20	
		2	30	14	1.00	
		3	14	4	12.00	244

DECOMPRESSION TABLE No. 2—Continued

Working chamber pressure P.s.i.g.	Working period Hours	Decompression data				
		Stage No.	Pressure reduction P.s.i.g.		Time in stage Minutes	Total time decompress Minutes
			From	To		
50	1 1/4	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	55	3.93
		4	4	0	90	22.50
	2	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	70	5.00
		4	4	0	120	30.00
	3	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	100	7.15
		4	4	0	130	32.50
	4	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	130	8.58
		4	4	0	130	32.50
	5	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	160	11.42
		4	4	0	130	32.50
	6	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	180	12.85
		4	4	0	130	32.50

Subpart T—Demolition

§ 1926.850 Preparatory operations.

(a) Prior to permitting employees to start demolition operations, an engineering survey shall be made, by a competent person, of the structure to determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed shall also be similarly checked. The employer shall have in writing evidence that such a survey has been performed.

(b) When employees are required to work within a structure to be demolished which has been damaged by fire, flood, explosion, or other cause, the walls or floor shall be shored or braced.

(c) All electric, gas, water, steam, sewer, and other service lines shall be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved shall be notified in advance.

(d) If it is necessary to maintain any power, water or other utilities during demolition, such lines shall be temporarily relocated, as necessary, and protected.

(e) It shall also be determined if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property. When the presence of any such substances is apparent or suspected, testing and purging shall be performed and the hazard eliminated before demolition is started.

(f) Where a hazard exists from fragmentation of glass, such hazards shall be removed.

(g) Where a hazard exists to employees falling through wall openings, the opening shall be protected to a height of approximately 42 inches.

(h) When debris is dropped through holes in the floor without the use of chutes, the area onto which the material is dropped shall be completely enclosed with barricades not less than 42 inches

high and not less than 6 feet back from the projected edge of the opening above. Signs, warning of the hazard of falling materials, shall be posted at each level. Removal shall not be permitted in this lower area until debris handling ceases above.

(i) All floor openings, not used as material drops, shall be covered over with material substantial enough to support the weight of any load which may be imposed. Such material shall be properly secured to prevent its accidental movement.

(j) Except for the cutting of holes in floors for chutes, holes through which to drop materials, preparation of storage space, and similar necessary preparatory work, the demolition of exterior walls and floor construction shall begin at the top of the structure and proceed downward. Each story of exterior wall and floor construction shall be removed and dropped into the storage space before commencing the removal of exterior walls and floors in the story next below.

(k) Employee entrances to multi-story structures being demolished shall be completely protected by sidewalk sheds or canopies, or both, providing protection from the face of the building for a minimum of 8 feet. All such canopies shall be at least 2 feet wider than the building entrances or openings (1 foot wider on each side thereof), and shall be capable of sustaining a load of 150 pounds per square foot.

§ 1926.851 Stairs, passageways, and ladders.

(a) Only those stairways, passageways, and ladders, designated as means of access to the structure of a building, shall be used. Other access ways shall be entirely closed at all times.

(b) All stairs, passageways, ladders and incidental equipment thereto, which are covered by this section, shall be periodically inspected and maintained in a clean safe condition.

(c) In a multistory building, when a stairwell is being used, it shall be properly illuminated by either natural or artificial means, and completely and

substantially covered over at a point not less than two floors below the floor on which work is being performed, and access to the floor where the work is in progress shall be through a properly lighted, protected, and separate passageway.

§ 1926.852 Chutes.

(a) No material shall be dropped to any point lying outside the exterior walls of the structure unless the area is effectively protected.

(b) All materials chutes, or sections thereof, at an angle of more than 45° from the horizontal, shall be entirely enclosed, except for openings equipped with closures at or about floor level for the insertion of materials. The openings shall not exceed 48 inches in height measured along the wall of the chute. At all stories below the top floor, such openings shall be kept closed when not in use.

(c) A substantial gate shall be installed in each chute at or near the discharge end. A competent employee shall be assigned to control the operation of the gate, and the backing and loading of trucks.

(d) When operations are not in progress, the area surrounding the discharge end of a chute shall be securely closed off.

(e) Any chute opening, into which workmen dump debris, shall be protected by a substantial guardrail approximately 42 inches above the floor or other surface on which the men stand to dump the material. Any space between the chute and the edge of openings in the floors through which it passes shall be solidly covered over.

(f) Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toeboard or bumper, not less than 4 inches thick and 6 inches high, shall be provided at each chute opening.

(g) Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.

§ 1926.853 Removal of materials through floor openings.

Any openings cut in a floor for the disposal of materials shall be no larger in size than 25 percent of the aggregate of the total floor area, unless the lateral supports of the removed flooring remain in place. Floors weakened or otherwise made unsafe by demolition operations shall be shored to carry safely the intended imposed load from demolition operations.

§ 1926.854 Removal of walls, masonry sections, and chimneys.

(a) Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors.

(b) No wall section, which is more than one story in height, shall be permitted to stand alone without lateral bracing, unless such wall was originally designed and constructed to stand without such lateral support, and is in a con-

dition safe enough to be self-supporting. All walls shall be left in a stable condition at the end of each shift.

(c) Employees shall not be permitted to work on the top of a wall when weather conditions constitute a hazard.

(d) Structural or load-supporting members on any floor shall not be cut or removed until all stories above such a floor have been demolished and removed. This provision shall not prohibit the cutting of floor beams for the disposal of materials or for the installation of equipment, provided that the requirements of §§ 1926.853 and 1926.855 are met.

(e) Floor openings within 10 feet of any wall being demolished shall be planked solid, except when employees are kept out of the area below.

(f) In buildings of "skeleton-steel" construction, the steel framing may be left in place during the demolition of masonry. Where this is done, all steel beams, girders, and similar structural supports shall be cleared of all loose material as the masonry demolition progresses downward.

(g) Walkways or ladders shall be provided to enable employees to safely reach or leave any scaffold or wall.

(h) Walls, which serve as retaining walls to support earth or adjoining structures, shall not be demolished until such earth has been properly braced or adjoining structures have been properly underpinned.

(i) Walls, which are to serve as retaining walls against which debris will be piled, shall not be so used unless capable of safely supporting the imposed load.

§ 1926.855 Manual removal of floors.

(a) Openings cut in a floor shall extend the full span of the arch between supports.

(b) Before demolishing any floor arch, debris and other material shall be removed from such arch and other adjacent floor area. Planks not less than 2 inches by 10 inches in cross section, full size undressed, shall be provided for, and shall be used by employees to stand on while breaking down floor arches between beams. Such planks shall be so located as to provide a safe support for the workmen should the arch between the beams collapse. The open space between planks shall not exceed 16 inches.

(c) Safe walkways, not less than 18 inches wide, formed of planks not less than 2 inches thick if wood, or of equivalent strength if metal, shall be provided and used by workmen when necessary to enable them to reach any point without walking upon exposed beams.

(d) Stringers of ample strength shall be installed to support the flooring planks, and the ends of such stringers shall be supported by floor beams or girders, and not by floor arches alone.

(e) Planks shall be laid together over solid bearings with the ends overlapping at least 1 foot.

(f) When floor arches are being removed, employees shall not be allowed in the area directly underneath, and

such an area shall be barricaded to prevent access to it.

(g) Demolition of floor arches shall not be started until they, and the surrounding floor area for a distance of 20 feet, have been cleared of debris and any other unnecessary materials.

§ 1926.856 Removal of walls, floors, and material with equipment.

(a) Mechanical equipment shall not be used on floors or working surfaces unless such floors or surfaces are of sufficient strength to support the imposed load.

(b) Floor openings shall have curbs or stop-logs to prevent equipment from running over the edge.

(c) Mechanical equipment used shall meet the requirements specified in Subparts N and O of this part.

§ 1926.857 Storage.

(a) The storage of waste material and debris on any floor shall not exceed the allowable floor loads.

(b) In buildings having wooden floor construction, the flooring boards may be removed from not more than one floor above grade to provide storage space for debris, provided falling material is not permitted to endanger the stability of the structure.

(c) When wood floor beams serve to brace interior walls or free-standing exterior walls, such beams shall be left in place until other equivalent support can be installed to replace them.

(d) Floor arches, to an elevation of not more than 25 feet above grade, may be removed to provide storage area for debris: *Provided*, That such removal does not endanger the stability of the structure.

(e) Storage space into which material is dumped shall be blocked off, except for openings necessary for the removal of material. Such openings shall be kept closed at all times when material is not being removed.

§ 1926.858 Removal of steel construction.

(a) When floor arches have been removed, planking in accordance with § 1926.855(b) shall be provided for the workers engaged in razing the steel framing.

(b) Cranes, derricks, and other hoisting equipment used shall meet the requirements specified in Subpart N of this part.

(c) Steel construction shall be dismantled column length by column length, and tier by tier (columns may be in two-story lengths).

(d) Any structural member being dismantled shall not be overstressed.

§ 1926.859 Mechanical demolition.

(a) No workers shall be permitted in any area, which can be adversely affected by demolition operations, when balling or clamming is being performed. Only those workers necessary for the performance of the operations shall be permitted in this area at any other time.

(b) The weight of the demolition ball shall not exceed 50 percent of the crane's

rated load, based on the length of the boom and the maximum angle of operation at which the demolition ball will be used, or it shall not exceed 25 percent of the nominal breaking strength of the line by which it is suspended, whichever results in a lesser value.

(c) The crane boom and loadline shall be as short as possible.

(d) The ball shall be attached to the loadline with a swivel-type connection to prevent twisting of the loadline, and shall be attached by positive means in such manner that the weight cannot become accidentally disconnected.

(e) When pulling over walls or portions thereof, all steel members affected shall have been previously cut free.

(f) All roof cornices or other such ornamental stonework shall be removed prior to pulling walls over.

(g) During demolition, continuing inspections by a competent person shall be made as the work progresses to detect hazards resulting from weakened or deteriorated floors, or walls, or loosened material. No employee shall be permitted to work where such hazards exist until they are corrected by shoring, bracing, or other effective means.

§ 1926.860 Selective demolition by explosives.

Selective demolition by explosives shall be conducted in accordance with the applicable sections of Subpart U of this part.

Subpart U—Blasting and the Use of Explosives

§ 1926.900 General provisions.

(a) The employer shall permit only authorized and qualified persons to handle and use explosives.

(b) Smoking, firearms, matches, open flame lamps, and other fires, flame or heat producing devices and sparks shall be prohibited in or near explosive magazines or while explosives are being handled, transported or used.

(c) No person shall be allowed to handle or use explosives while under the influence of intoxicating liquors, narcotics, or other dangerous drugs.

(d) All explosives shall be accounted for at all times. Explosives not being used shall be kept in a locked magazine, unavailable to persons not authorized to handle them. The employer shall maintain an inventory and use record of all explosives. Appropriate authorities shall be notified of any loss, theft, or unauthorized entry into a magazine.

(e) No explosives or blasting agents shall be abandoned.

(f) No fire shall be fought where the fire is in imminent danger of contact with explosives. All employees shall be removed to a safe area and the fire area guarded against intruders.

(g) Original containers, or Class II magazines, shall be used for taking detonators and other explosives from storage magazines to the blasting area.

(h) When blasting is done in congested areas or in proximity to a structure, railway, or highway, or any other installation that may be damaged, the

blaster shall take special precautions in the loading, delaying, initiation, and confinement of each blast with mats or other methods so as to control the throw of fragments, and thus prevent bodily injury to employees.

(i) Employees authorized to prepare explosive charges or conduct blasting operations shall use every reasonable precaution including, but not limited to, visual and audible warning signals, flags, or barricades, to ensure employee safety.

(j) Insofar as possible, blasting operations above ground shall be conducted between sunup and sundown.

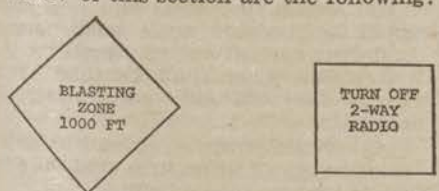
(k) Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radar, radio transmitters, lightning, adjacent powerlines, dust storms, or other sources of extraneous electricity. These precautions shall include:

(1) Detonators shall be short-circuited in holes which have been primed and shunted until wired into the blasting circuit.

(2) The suspension of all blasting operations and removal of persons from the blasting area during the approach and progress of an electric storm;

(3) (i) The prominent display of adequate signs, warning against the use of mobile radio transmitters, on all roads within 1,000 feet of blasting operations. Whenever adherence to the 1,000-foot distance would create an operational handicap, a competent person shall be consulted to evaluate the particular situation, and alternative provisions may be made which are adequately designed to prevent any premature firing of electric blasting caps. A description of any such alternatives shall be reduced to writing and shall be certified as meeting the purposes of this subdivision by the competent person consulted. The description shall be maintained at the construction site during the duration of the work, and shall be available for inspection by representatives of the Secretary of Labor.

(ii) Specimens of signs which would meet the requirements of paragraph (k) (3) of this section are the following:



About 48" x 48"

About 42" x 36"

(4) Ensuring that mobile radio transmitters which are less than 100 feet away from electric blasting caps, in other than original containers, shall be de-energized and effectively locked;

(5) Compliance with the recommendations of The Institute of the Makers of Explosives with regard to blasting in the vicinity of radio transmitters as stipulated in Radio Frequency Energy—A Potential Hazard in the Use of Electric

Blasting Caps, IME Publication No. 20, March 1971.

(l) Empty boxes and paper and fiber packing materials, which have previously contained high explosives, shall not be used again for any purpose, but shall be destroyed by burning at an approved location.

(m) Explosives, blasting agents, and blasting supplies that are obviously deteriorated or damaged shall not be used.

(n) Delivery and issue of explosives shall only be made by and to authorized persons and into authorized magazines or approved temporary storage or handling areas.

(o) Blasting operations in the proximity of overhead power lines, communication lines, utility services, or other services and structures shall not be carried on until the operators and/or owners have been notified and measures for safe control have been taken.

(p) The use of black powder shall be prohibited.

(q) All loading and firing shall be directed and supervised by competent persons thoroughly experienced in this field.

(r) All blasts shall be fired electrically with an electric blasting machine or properly designed electric power source, except as provided in § 1926.906 (a) and (r).

§ 1926.901 Blaster qualifications.

(a) A blaster shall be able to understand and give written and oral orders.

(b) A blaster shall be in good physical condition and not be addicted to narcotics, intoxicants, or similar types of drugs.

(c) A blaster shall be qualified, by reason of training, knowledge, or experience, in the field of transporting, storing, handling, and use of explosives, and have a working knowledge of State and local laws and regulations which pertain to explosives.

(d) Blasters shall be required to furnish satisfactory evidence of competency in handling explosives and performing in a safe manner the type of blasting that will be required.

(e) The blaster shall be knowledgeable and competent in the use of each type of blasting method used.

§ 1926.902 Surface transportation of explosives.

(a) Transportation of explosives shall meet the provisions of Department of Transportation regulations contained in 14 CFR Part 103, Air Transportation; 46 CFR Parts 146-149, Water Carriers; 49 CFR Parts 171-179, Highways and Railways; 49 CFR Part 180, Pipelines; and 49 CFR Parts 390-397, Motor Carriers.

(b) Motor vehicles or conveyances transporting explosives shall only be driven by, and be in the charge of, a licensed driver who is physically fit. He shall be familiar with the local, State, and Federal regulation governing the transportation of explosives.

(c) No person shall smoke, or carry matches or any other flame-producing device, nor shall firearms or loaded cartridges be carried while in or near a

motor vehicle or conveyance transporting explosives.

(d) Explosives, blasting agents, and blasting supplies shall not be transported with other materials or cargoes. Blasting caps (including electric) shall not be transported in the same vehicle with other explosives.

(e) Vehicles used for transporting explosives shall be strong enough to carry the load without difficulty, and shall be in good mechanical condition.

(f) When explosives are transported by a vehicle with an open body, a Class II magazine or original manufacturer's container shall be securely mounted on the bed to contain the cargo.

(g) All vehicles used for the transportation of explosives shall have tight floors and any exposed spark-producing metal on the inside of the body shall be covered with wood, or other nonsparking material, to prevent contact with containers of explosives.

(h) Every motor vehicle or conveyance used for transporting explosives shall be marked or placarded on both sides, the front, and the rear with the word "Explosives" in red letters, not less than 4 inches in height, on white background. In addition to such marking or placarding, the motor vehicle or conveyance may display, in such a manner that it will be readily visible from all directions, a red flag 18 inches by 30 inches, with the word "Explosives" painted, stamped, or sewed thereon, in white letters, at least 6 inches in height.

(i) Each vehicle used for transportation of explosives shall be equipped with a fully charged fire extinguisher, in good condition. An Underwriters Laboratory-approved extinguisher of not less than 10-ABC rating will meet the minimum requirement. The driver shall be trained in the use of the extinguisher on his vehicle.

(j) Motor vehicles or conveyances carrying explosives, blasting agents, or blasting supplies, shall not be taken inside a garage or shop for repairs or servicing.

(k) No motor vehicle transporting explosives shall be left unattended.

§ 1926.903 Underground transportation of explosives.

(a) All explosives or blasting agents in transit underground shall be taken to the place of use or storage without delay.

(b) The quantity of explosives or blasting agents taken to an underground loading area shall not exceed the amount estimated to be necessary for the blast.

(c) Explosives in transit shall not be left unattended.

(d) The hoist operator shall be notified before explosives or blasting agents are transported in a shaft conveyance.

(e) Trucks used for the transportation of explosives underground shall have the electrical system checked weekly to detect any failures which may constitute an electrical hazard. A written record of such inspections shall be kept on file.

RULES AND REGULATIONS

(f) The installation of auxiliary lights on truck beds, which are powered by the truck's electrical system, shall be prohibited.

(g) Explosives and blasting agents shall be hoisted, lowered, or conveyed in a powder car. No other materials, supplies, or equipment shall be transported in the same conveyance at the same time.

(h) No one, except the operator, his helper, and the powderman, shall be permitted to ride on a conveyance transporting explosives and blasting agents.

(i) No person shall ride in any shaft conveyance transporting explosives and blasting agents.

(j) No explosives or blasting agents shall be transported on any locomotive. At least two car lengths shall separate the locomotive from the powder car.

(k) No explosives or blasting agents shall be transported on a man haul trip.

(l) The car or conveyance containing explosives or blasting agents shall be pulled, not pushed, whenever possible.

(m) The powder car or conveyance especially built for the purpose of transporting explosives or blasting agents shall bear a reflectorized sign on each side with the word "Explosives" in letters, not less than 4 inches in height; upon a background of sharply contrasting color.

(n) Compartments for transporting detonators and explosives in the same car or conveyance shall be physically separated by a distance of 24 inches or by a solid partition at least 6 inches thick.

(o) Detonators and other explosives shall not be transported at the same time in any shaft conveyance.

(p) Explosives, blasting agents, or blasting supplies shall not be transported with other materials.

(q) Explosives or blasting agents, not in original containers, shall be placed in a suitable container when transported manually.

(r) Detonators, primers, and other explosives shall be carried in separate containers when transported manually.

§ 1926.904 Storage of explosives and blasting agents.

(a) Explosives and related materials shall be stored in approved facilities required under the applicable provisions of the Internal Revenue Service regulations contained in 26 CFR 181, Commerce in Explosives.

(b) Blasting caps, electric blasting caps, detonating primers, and primed cartridges shall not be stored in the same magazine with other explosives or blasting agents.

(c) Smoking and open flames shall not be permitted within 50 feet of explosives and detonator storage magazine.

(d) No explosives or blasting agents shall be permanently stored in any underground operation until the operation has been developed to the point where at least two modes of exit have been provided.

(e) Permanent underground storage magazines shall be at least 300 feet from

any shaft, adit, or active underground working area.

(f) Permanent underground magazines containing detonators shall not be located closer than 50 feet to any magazine containing other explosives or blasting agents.

§ 1926.905 Loading of explosives or blasting agents.

(a) Procedures that permit safe and efficient loading shall be established before loading is started.

(b) All drill holes shall be sufficiently large to admit freely the insertion of the cartridges of explosives.

(c) Tamping shall be done only with wood rods or plastic tamping poles without exposed metal parts, but nonsparking metal connectors may be used for jointed poles. Violent tamping shall be avoided. The primer shall never be tamped.

(d) No holes shall be loaded except those to be fired in the next round of blasting. After loading, all remaining explosives and detonators shall be immediately returned to an authorized magazine.

(e) Drilling shall not be started until all remaining butts of old holes are examined for unexploded charges, and if any are found, they shall be refired before work proceeds.

(f) No person shall be allowed to deepen drill holes which have contained explosives or blasting agents.

(g) No explosives or blasting agents shall be left unattended at the blast site.

(h) Machines and all tools not used for loading explosives into bore holes shall be removed from the immediate location of holes before explosives are delivered. Equipment shall not be operated within 50 feet of loaded holes.

(i) No activity of any nature other than that which is required for loading holes with explosives shall be permitted in a blast area.

(j) Powerlines and portable electric cables for equipment being used shall be kept a safe distance from explosives or blasting agents being loaded into drill holes. Cables in the proximity of the blast area shall be deenergized and locked out by the blaster.

(k) Holes shall be checked prior to loading to determine depth and conditions. Where a hole has been loaded with explosives but the explosives have failed to detonate, there shall be no drilling within 50 feet of the hole.

(l) When loading a long line of holes with more than one loading crew, the crews shall be separated by practical distance consistent with efficient operation and supervision of crews.

(m) No explosive shall be loaded or used underground in the presence of combustible gases or combustible dusts.

(n) No explosives other than those in Fume Class 1, as set forth by the Institute of Makers of Explosives, shall be used; however, explosives complying with the requirements of Fume Class 2 and Fume Class 3 may be used if adequate ventilation has been provided.

(o) All blast holes in open work shall be stemmed to the collar or to a point which will confine the charge.

(p) Warning signs, indicating a blast area, shall be maintained at all approaches to the blast area. The warning sign lettering shall not be less than 4 inches in height on a contrasting background.

(q) A bore hole shall never be sprung when it is adjacent to or near a hole that is loaded. Flashlight batteries shall not be used for springing holes.

(r) Drill holes which have been sprung or chambered, and which are not water-filled, shall be allowed to cool before explosives are loaded.

(s) No loaded holes shall be left unattended or unprotected.

(t) The blaster shall keep an accurate, up-to-date record of explosives, blasting agents, and blasting supplies used in a blast and shall keep an accurate running inventory of all explosives and blasting agents stored on the operation.

§ 1926.906 Initiation of explosive charges—electric blasting.

(a) Electric blasting caps shall not be used where sources of extraneous electricity make the use of electric blasting caps dangerous. Blasting cap leg wires shall be kept short-circuited (shunted) until they are connected into the circuit for firing.

(b) Before adopting any system of electrical firing, the blaster shall conduct a thorough survey for extraneous currents, and all dangerous currents shall be eliminated before any holes are loaded.

(c) In any single blast using electric blasting caps, all caps shall be of the same style or function, and of the same manufacture.

(d) Electric blasting shall be carried out by using blasting circuits or power circuits in accordance with the electric blasting cap manufacturer's recommendations, or an approved contractor or his designated representative.

(e) When firing a circuit of electric blasting caps, care must be exercised to ensure that an adequate quantity of delivered current is available, in accordance with the manufacturer's recommendations.

(f) Connecting wires and lead wires shall be insulated single solid wires of sufficient current-carrying capacity.

(g) Bus wires shall be solid single wires of sufficient current-carrying capacity.

(h) When firing electrically, the insulation on all firing lines shall be adequate and in good condition.

(i) A power circuit used for firing electric blasting caps shall not be grounded.

(j) In underground operations when firing from a power circuit, a safety switch shall be placed in the permanent firing line at intervals. This switch shall be made so it can be locked only in the "Off" position and shall be provided with a short-circuiting arrangement of the firing lines to the cap circuit.

(k) In underground operations there shall be a "lightning" gap of at least 5 feet in the firing system ahead of the main firing switch; that is, between this

switch and the source of power. This gap shall be bridged by a flexible jumper cord just before firing the blast.

(l) When firing from a power circuit, the firing switch shall be locked in the open or "Off" position at all times, except when firing. It shall be so designed that the firing lines to the cap circuit are automatically short-circuited when the switch is in the "Off" position. Keys to this switch shall be entrusted only to the blaster.

(m) Blasting machines shall be in good condition and the efficiency of the machine shall be tested periodically to make certain that it can deliver power at its rated capacity.

(n) When firing with blasting machines, the connections shall be made as recommended by the manufacturer of the electric blasting caps used.

(o) The number of electric blasting caps connected to a blasting machine shall not be in excess of its rated capacity. Furthermore, in primary blasting, a series circuit shall contain no more caps than the limits recommended by the manufacturer of the electric blasting caps in use.

(p) The blaster shall be in charge of the blasting machines, and no other person shall connect the leading wires to the machine.

(q) Blasters, when testing circuits to charged holes, shall use only blasting galvanometers equipped with a silver chloride cell especially designed for this purpose.

(r) Whenever the possibility exists that a leading line or blasting wire might be thrown over a live powerline by the force of an explosion, care shall be taken to see that the total length of wires are kept too short to hit the lines, or that the wires are securely anchored to the ground. If neither of these requirements can be satisfied, a nonelectric system shall be used.

(s) In electrical firing, only the man making leading wire connections shall fire the shot. All connections shall be made from the bore hole back to the source of firing current, and the leading wires shall remain shorted and not be connected to the blasting machine or other source of current until the charge is to be fired.

(t) After firing an electric blast from a blasting machine, the leading wires shall be immediately disconnected from the machine and short-circuited.

§ 1926.907 Use of safety fuse.

(a) Safety fuse shall only be used where sources of extraneous electricity make the use of electric blasting caps dangerous. The use of a fuse that has been hammered or injured in any way shall be forbidden.

(b) The hanging of a fuse on nails or other projections which will cause a sharp bend to be formed in the fuse is prohibited.

(c) Before capping safety fuse, a short length shall be cut from the end of the supply reel so as to assure a fresh cut end in each blasting cap.

(d) Only a cap crimper of approved design shall be used for attaching blast-

ing caps to safety fuse. Crimpers shall be kept in good repair and accessible for use.

(e) No unused cap or short capped fuse shall be placed in any hole to be blasted; such unused detonators shall be removed from the working place and destroyed.

(f) No fuse shall be capped, or primers made up, in any magazine or near any possible source of ignition.

(g) No one shall be permitted to carry detonators or primers of any kind on his person.

(h) The minimum length of safety fuse to be used in blasting shall be as required by State law, but shall not be less than 30 inches.

(i) At least two men shall be present when multiple cap and fuse blasting is done by hand lighting methods.

(j) Not more than 12 fuses shall be lighted by each blaster when hand lighting devices are used. However, when two or more safety fuses in a group are lighted as one by means of igniter cord, or other similar fuse-lighting devices, they may be considered as one fuse.

(k) The so-called "drop fuse" method of dropping or pushing a primer or any explosive with a lighted fuse attached is forbidden.

(l) Cap and fuse shall not be used for firing mudcap charges unless charges are separated sufficiently to prevent one charge from dislodging other shots in the blast.

(m) When blasting with safety fuses, consideration shall be given to the length and burning rate of the fuse. Sufficient time, with a margin of safety, shall always be provided for the blaster to reach a place of safety.

§ 1926.908 Use of detonating cord.

(a) Care shall be taken to select a detonating cord consistent with the type and physical condition of the bore hole and stemming and the type of explosives used.

(b) Detonating cord shall be handled and used with the same respect and care given other explosives.

(c) The line of detonating cord extending out of a bore hole or from a charge shall be cut from the supply spool before loading the remainder of the bore hole or placing additional charges.

(d) Detonating cord shall be handled and used with care to avoid damaging or severing the cord during and after loading and hooking-up.

(e) Detonating cord connections shall be competent and positive in accordance with approved and recommended methods. Knot-type or other cord-to-cord connections shall be made only with detonating cord in which the explosive core is dry.

(f) All detonating cord trunklines and branchlines shall be free of loops, sharp kinks, or angles that direct the cord back toward the oncoming line of detonation.

(g) All detonating cord connections shall be inspected before firing the blast.

(h) When detonating cord millisecond-delay connectors or short-interval-

delay electric blasting caps are used with detonating cord, the practice shall conform strictly to the manufacturer's recommendations.

(i) When connecting a blasting cap or an electric blasting cap to detonating cord, the cap shall be taped or otherwise attached securely along the side or the end of the detonating cord, with the end of the cap containing the explosive charge pointed in the direction in which the detonation is to proceed.

(j) Detonators for firing the trunkline shall not be brought to the loading area nor attached to the detonating cord until everything else is in readiness for the blast.

§ 1926.909 Firing the blast.

(a) A code of blasting signals equivalent to Table U-1, shall be posted on one or more conspicuous places at the operation, and all employees shall be required to familiarize themselves with the code and conform to it. Danger signs shall be placed at suitable locations.

(b) Before a blast is fired, a loud warning signal shall be given by the blaster in charge, who has made certain that all surplus explosives are in a safe place and all employees, vehicles, and equipment are at a safe distance, or under sufficient cover.

(c) Flagmen shall be safely stationed on highways which pass through the danger zone so as to stop traffic during blasting operations.

(d) It shall be the duty of the blaster to fix the time of blasting.

(e) Before firing an underground blast, warning shall be given, and all possible entries into the blasting area, and any entrances to any working place where a drift, raise, or other opening is about to hole through, shall be carefully guarded. The blaster shall make sure that all employees are out of the blast area before firing a blast.

TABLE U-1

WARNING SIGNAL—A 1-minute series of long blasts 5 minutes prior to blast signal.
BLAST SIGNAL—A series of short blasts 1 minute prior to the shot.
ALL CLEAR SIGNAL—A prolonged blast following the inspection of blast area.

§ 1926.910 Inspection after blasting.

(a) Immediately after the blast has been fired, the firing line shall be disconnected from the blasting machine, or where power switches are used, they shall be locked open or in the off position.

(b) Sufficient time shall be allowed, not less than 15 minutes in tunnels, for the smoke and fumes to leave the blasted area before returning to the shot. An inspection of the area and the surrounding rubble shall be made by the blaster to determine if all charges have been exploded before employees are allowed to return to the operation, and in tunnels, after the muck pile has been wetted down.

§ 1926.911 Misfires.

(a) If a misfire is found, the blaster shall provide proper safeguards for ex-

cluding all employees from the danger zone.

(b) No other work shall be done except that necessary to remove the hazard of the misfire and only those employees necessary to do the work shall remain in the danger zone.

(c) No attempt shall be made to extract explosives from any charged or misfired hole; a new primer shall be put in and the hole reblasted. If refring of the misfired hole presents a hazard, the explosives may be removed by washing out with water or, where the misfire is under water, blown out with air.

(d) If there are any misfires while using cap and fuse, all employees shall remain away from the charge for at least 1 hour. Misfires shall be handled under the direction of the person in charge of the blasting. All wires shall be carefully traced and a search made for unexploded charges.

(e) No drilling, digging, or picking shall be permitted until all missed holes have been detonated or the authorized representative has approved that work can proceed.

§ 1926.912 Underwater blasting.

(a) A blaster shall conduct all blasting operations, and no shot shall be fired without his approval.

(b) Loading tubes and casings of dissimilar metals shall not be used because of possible electric transient currents from galvanic action of the metals and water.

(c) Only water-resistant blasting caps and detonating cords shall be used for all marine blasting. Loading shall be done through a nonsparking metal loading tube when tube is necessary.

(d) No blast shall be fired while any vessel under way is closer than 1,500 feet to the blasting area. Those on board vessels or craft moored or anchored within 1,500 feet shall be notified before a blast is fired.

(e) No blast shall be fired while any swimming or diving operations are in progress in the vicinity of the blasting area. If such operations are in progress, signals and arrangements shall be agreed upon to assure that no blast shall be fired while any person is in the water.

(f) Blasting flags shall be displayed.

(g) The storage and handling of explosives aboard vessels used in underwater blasting operations shall be according to provisions outlined herein on handling and storing explosives.

(h) When more than one charge is placed under water, a float device shall be attached to an element of each charge in such manner that it will be released by the firing. Misfires shall be handled in accordance with the requirements of § 1926.911.

§ 1926.913 Blasting in excavation work under compressed air.

(a) Detonators and explosives shall not be stored or kept in tunnels, shafts, or caissons. Detonators and explosives for each round shall be taken directly from the magazines to the blasting zone

and immediately loaded. Detonators and explosives left over after loading a round shall be removed from the working chamber before the connecting wires are connected up.

(b) When detonators or explosives are brought into an air lock, no employee except the powderman, blaster, lock tender and the employees necessary for carrying, shall be permitted to enter the air lock. No other material, supplies, or equipment shall be locked through with the explosives.

(c) Detonators and explosives shall be taken separately into pressure working chambers.

(d) The blaster or powderman shall be responsible for the receipt, unloading, storage, and on-site transportation of explosives and detonators.

(e) All metal pipes, rails, air locks, and steel tunnel lining shall be electrically bonded together and grounded at or near the portal or shaft, and such pipes and rails shall be cross-bonded together at not less than 1,000-foot intervals throughout the length of the tunnel. In addition, each low air supply pipe shall be grounded at its delivery end.

(f) The explosives suitable for use in wet holes shall be water-resistant and shall be Fume Class 1.

(g) When tunnel excavation in rock face is approaching mixed face, and when tunnel excavation is in mixed face, blasting shall be performed with light charges and with light burden on each hole. Advance drilling shall be performed as tunnel excavation in rock face approaches mixed face, to determine the general nature and extent of rock cover and the remaining distance ahead to soft ground as excavation advances.

§ 1926.914 Definitions applicable to this subpart.

(a) "American Table of Distances" (also known as Quantity Distance Tables) means American Table of Distances for Storage of Explosives as revised and approved by the Institute of the Makers of Explosives, June 5, 1964.

(b) "Approved storage facility"—A facility for the storage of explosive materials conforming to the requirements of this part and covered by a license or permit issued under authority of the Internal Revenue Service. (See 26 CFR Part 181).

(c) "Blast area"—The area in which explosives loading and blasting operations are being conducted.

(d) "Blaster"—The person or persons authorized to use explosives for blasting purposes and meeting the qualifications contained in § 1926.901.

(e) "Blasting agent"—A blasting agent is any material or mixture consisting of a fuel and oxidizer used for blasting, but not classified an explosive and in which none of the ingredients is classified as an explosive provided the furnished (mixed) product cannot be detonated with a No. 8 test blasting cap when confined. A common blasting agent presently in use is a mixture of ammonium nitrate (NH_4NO_3) and carbonaceous combustibles, such as fuel oil or

coal, and may either be procured, premixed and packaged from explosives companies or mixed in the field.

(f) "Blasting cap"—A metallic tube closed at one end, containing a charge of one or more detonating compounds, and designed for and capable of detonation from the sparks or flame from a safety fuse inserted and crimped into the open end.

(g) "Block holing"—The breaking of boulders by firing a charge of explosives that has been loaded in a drill hole.

(h) "Conveyance"—Any unit for transporting explosives or blasting agents, including but not limited to trucks, trailers, rail cars, barges, and vessels.

(i) "Detonating cord"—A flexible cord containing a center core of high explosives which when detonated, will have sufficient strength to detonate other cap-sensitive explosives with which it is in contact.

(j) "Detonator"—Blasting caps, electric blasting caps, delay electric blasting caps, and nonelectric delay blasting caps.

(k) "Electric blasting cap"—A blasting cap designed for and capable of detonation by means of an electric current.

(l) "Electric blasting circuitry"—
(1) Bus wire. An expendable wire, used in parallel or series, in parallel circuits, to which are connected the leg wires of electric blasting caps.

(2) Connecting wire. An insulated expendable wire used between electric blasting caps and the leading wires or between the bus wire and the leading wires.

(3) Leading wire. An insulated wire used between the electric power source and the electric blasting cap circuit.

(4) Permanent blasting wire. A permanently mounted insulated wire used between the electric power source and the electric blasting cap circuit.

(m) "Electric delay blasting caps"—Caps designed to detonate at a predetermined period of time after energy is applied to the ignition system.

(n) "Explosives"—(1) Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion; that is, with substantially instantaneous release of gas and heat, unless such compound, mixture or device is otherwise specifically classified by the U.S. Department of Transportation.

(2) All material which is classified as Class A, Class B, and Class C explosives by the U.S. Department of Transportation.

(3) Classification of explosives by the U.S. Department of Transportation is as follows:

Class A Explosives. Possessing detonating hazard, such as dynamite, nitroglycerin, picric acid, lead azide, fulminate of mercury, black powder, blasting caps, and detonating primers.

Class B Explosives. Possessing flammable hazard, such as propellant explosives, including some smokeless propellants.

Class C Explosives. Include certain types of manufactured articles which contain Class A or Class B explosives, or both, as components, but in restricted quantities.

(o) "Fuse lighters"—Special devices for the purpose of igniting safety fuse.
(p) "Magazine"—Any building or structure, other than an explosives manufacturing building, used for the storage of explosives.

(q) "Misfire"—An explosive charge which failed to detonate.

(r) "Mud-capping" (sometimes known as bulldozing, adobe blasting, or doying). The blasting of boulders by placing a quantity of explosives against a rock, boulder, or other object without confining the explosives in a drill hole.

(s) "Nonelectric delay blasting cap"—A blasting cap with an integral delay element in conjunction with and capable of being detonated by a detonation impulse or signal from miniaturized detonating cord.

(t) "Primary blasting"—The blasting operation by which the original rock formation is dislodged from its natural location.

(u) "Primer"—A cartridge or container of explosives into which a detonator or detonating cord is inserted or attached.

(v) "Safety fuse"—A flexible cord containing an internal burning medium by which fire is conveyed at a continuous and uniform rate for the purpose of firing blasting caps.

(w) "Secondary blasting"—The reduction of oversize material by the use of explosives to the dimension required for handling, including mudcapping and blockholing.

(x) "Stemming"—A suitable inert incombustible material or device used to confine or separate explosives in a drill hole, or to cover explosives in mudcapping.

(y) "Springing"—The creation of a pocket in the bottom of a drill hole by the use of a moderate quantity of explosives in order that larger quantities or explosives may be inserted therein.

(z) "Water gels, or slurry explosives"—A wide variety of materials used for blasting. They all contain substantial proportions of water and high proportions of ammonium nitrate, some of which is in solution in the water. Two broad classes of water gels are: (1) Those which are sensitized by a material classed as an explosive, such as TNT or smokeless powder, and (2) those which contain no ingredient classified as an explosive; these are sensitized with metals such as aluminum or with other fuels. Water gels may be premixed at an explosives plant or mixed at the site immediately before delivery into the bore hole.

Subpart V—Power Transmission and Distribution

§ 1926.950 General requirements.

(a) *Application.* The occupational safety and health standards contained in this Subpart V shall apply to the construction of electric transmission and distribution lines and equipment.

(1) As used in this Subpart V the term "construction" includes the erection of new electric transmission and distribution lines and equipment, and the alteration, conversion, and improvement of existing electric transmission and distribution lines and equipment.

(2) Existing electric transmission and distribution lines and electrical equipment need not be modified to conform to the requirements of applicable standards in this Subpart V, until such work as described in subparagraph (1) of this paragraph is to be performed on such lines or equipment.

(3) The standards set forth in this Subpart V provide minimum requirements for safety and health. Employers may require adherence to additional standards which are not in conflict with the standards contained in this Subpart V.

(b) *Initial inspections, tests, or determinations.* (1) Existing conditions shall be determined before starting work, by an inspection or a test. Such conditions shall include, but not be limited to, energized lines and equipment, conditions of poles, and the location of circuits and equipment, including power and communication lines, CATV and fire alarm circuits.

(2) Electric equipment and lines shall be considered energized until determined to be deenergized by tests or other appropriate methods or means.

(3) Operating voltage of equipment and lines shall be determined before working on or near energized parts.

(c) *Clearances.* The provisions of subparagraph (1) or (2) of this paragraph shall be observed.

(1) No employee shall be permitted to approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table V-1, unless:

(i) The employee is insulated or guarded from the energized part (gloves or gloves with sleeves rated for the voltage involved shall be considered insulation of the employee from the energized part), or

(ii) The energized part is insulated or guarded from him and any other conductive object at a different potential, or

(iii) The employee is isolated, insulated, or guarded from any other conductive object(s), as during live-line bare-hand work.

(2) (i) The minimum working distance and minimum clear hot stick distances stated in Table V-1 shall not be violated. The minimum clear hot stick distance is that for the use of live-line tools held by linemen when performing live-line work.

(ii) Conductor support tools, such as link sticks, strain carriers, and insulator cradles, may be used: *Provided*, That the clear insulation is at least as long as the insulator string or the minimum distance specified in Table V-1 for the operating voltage.

TABLE V-1

ALTERNATING CURRENT—MINIMUM DISTANCES

Voltage range (phase to phase) kilovolt	Minimum working and clear hot stick distance
2.1 to 15	2 ft. 0 in.
15.1 to 35	2 ft. 4 in.
35.1 to 46	2 ft. 6 in.
46.1 to 72.5	3 ft. 0 in.
72.6 to 121	3 ft. 4 in.
121 to 145	3 ft. 6 in.
145 to 161	3 ft. 8 in.
161 to 230	5 ft. 0 in.
230 to 345	7 ft. 0 in.
345 to 552	11 ft. 0 in.
552 to 765	15 ft. 0 in.

¹ NOTE: For 345-362 kv., 500-552 kv., and 700-765 kv., the minimum working distance and the minimum clear hot stick distance may be reduced provided that such distances are not less than the shortest distance between the energized part and a grounded surface.

(d) *Deenergizing lines and equipment.* (1) When deenergizing lines and equipment operated in excess of 600 volts, and the means of disconnecting from electric energy is not visibly open or visibly locked out, the provisions of subdivisions (i) through (vii) of this subparagraph shall be complied with:

(i) The particular section of line or equipment to be deenergized shall be clearly identified, and it shall be isolated from all sources of voltage.

(ii) Notification and assurance from the designated employee shall be obtained that:

(a) All switches and disconnectors through which electric energy may be supplied to the particular section of line or equipment to be worked have been deenergized;

(b) All switches and disconnectors are plainly tagged indicating that men are at work;

(c) And that where design of such switches and disconnectors permits, they have been rendered inoperable.

(iii) After all designated switches and disconnectors have been opened, rendered inoperable, and tagged, visual inspection or tests shall be conducted to insure that equipment or lines have been deenergized.

(iv) Protective grounds shall be applied on the disconnected lines or equipment to be worked on.

(v) Guards or barriers shall be erected as necessary to adjacent energized lines.

(vi) When more than one independent crew requires the same line or equipment to be deenergized, a prominent tag for each such independent crew shall be placed on the line or equipment by the designated employee in charge.

(vii) Upon completion of work on deenergized lines or equipment, each designated employee in charge shall determine that all employees in his crew are clear, that protective grounds installed by his crew have been removed, and he shall report to the designated authority that all tags protecting his crew may be removed.

(2) When a crew working on a line or equipment can clearly see that the means of disconnecting from electric energy are visibly open or visibly locked-out, the provisions of subdivisions (i), and (ii) of this subparagraph shall apply:

(i) Guards or barriers shall be erected as necessary to adjacent energized lines.

(ii) Upon completion of work on de-energized lines or equipment, each designated employee in charge shall determine that all employees in his crew are clear, that protective grounds installed by his crew have been removed, and he shall report to the designated authority that all tags protecting his crew may be removed.

(e) *Emergency procedures and first aid.* (1) The employer shall provide training or require that his employees are knowledgeable and proficient in:

(i) Procedures involving emergency situations, and

(ii) First-aid fundamentals including resuscitation.

(2) In lieu of paragraph (e)(1) of this section the employer may comply with the provisions of § 1926.50(c) regarding first-aid requirements.

(f) *Night work.* When working at night, spotlights or portable lights for emergency lighting shall be provided as needed to perform the work safely.

(g) *Work near and over water.* When crews are engaged in work over or near water and when danger of drowning exists, suitable protection shall be provided as stated in § 1926.104, or § 1926.105, or § 1926.106.

(h) *Sanitation facilities.* The requirements of § 1926.51 of Subpart D of this part shall be complied with for sanitation facilities.

(i) *Hydraulic fluids.* All hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools which are used on or around energized lines and equipment shall be of the insulating type. The requirements for fire resistant fluids of § 1926.302(d)(1) do not apply to hydraulic tools covered by this paragraph.

§ 1926.951 Tools and protective equipment.

(a) *Protective equipment.* (1) (i) Rubber protective equipment shall be in accordance with the provisions of the American National Standards Institute (ANSI), ANSI J6 series, as follows:

Item	Standard
Rubber insulating gloves.....	J6.6-1971.
Rubber matting for use around electric apparatus.....	J6.7-1935 (R1971).
Rubber insulating blankets.....	J6.4-1971.
Rubber insulating hoods.....	J6.2-1950 (R1971).
Rubber insulating line hose.....	J6.1-1950 (R1971).
Rubber insulating sleeves.....	J6.5-1971.

(ii) Rubber protective equipment shall be visually inspected prior to use.

(iii) In addition, an "air" test shall be performed for rubber gloves prior to use.

(iv) Protective equipment of material other than rubber shall provide equal or better electrical and mechanical protection.

(2) Protective hats shall be in accordance with the provisions of ANSI

Z89.2-1971 Industrial Protective Helmets for Electrical Workers, Class B, and shall be worn at the jobsite by employees who are exposed to the hazards of falling objects, electric shock, or burns.

(b) *Personal climbing equipment.* (1) Body belts with straps or lanyards shall be worn to protect employees working at elevated locations on poles, towers, or other structures except where such use creates a greater hazard to the safety of the employees, in which case other safeguards shall be employed.

(2) Body belts and safety straps shall meet the requirements of § 1926.959. In addition to being used as an employee safeguarding item, body belts with approved tool loops may be used for the purpose of holding tools. Body belts shall be free from additional metal hooks and tool loops other than those permitted in § 1926.959.

(3) Body belts and straps shall be inspected before use each day to determine that they are in safe working condition.

(4) (i) Life lines and lanyards shall comply with the provisions of § 1926.104.

(ii) Safety lines are not intended to be subjected to shock loading and are used for emergency rescue such as lowering a man to the ground. Such safety lines shall be a minimum of one-half-inch diameter and three or four strand first-grade manila or its equivalent in strength (2,650 lb.) and durability.

(5) Defective ropes shall be replaced.

(c) *Ladders.* (1) Portable metal or conductive ladders shall not be used near energized lines or equipment except as may be necessary in specialized work such as in high voltage substations where nonconductive ladders might present a greater hazard than conductive ladders. Conductive or metal ladders shall be prominently marked as conductive and all necessary precautions shall be taken when used in specialized work.

(2) Hook or other type ladders used in structures shall be positively secured to prevent the ladder from being accidentally displaced.

(d) *Live-line tools.* (1) Only live-line tool poles having a manufacturer's certification to withstand the following minimum tests shall be used:

(i) 100,000 volts per foot of length for 5 minutes when the tool is made of fiberglass; or

(ii) 75,000 volts per foot of length for 3 minutes when the tool is made of wood; or

(iii) Other tests equivalent to paragraph (d) (i) or (ii) of this section as appropriate.

(2) All live-line tools shall be visually inspected before use each day. Tools to be used shall be wiped clean and if any hazardous defects are indicated such tools shall be removed from service.

(e) *Measuring tapes or measuring ropes.* Measuring tapes or measuring ropes which are metal or contain conductive strands shall not be used when working on or near energized parts.

(f) *Handtools.* (1) Switches for all powered hand tools shall comply with § 1926.300(d).

(2) All portable electric handtools shall:

(i) Be equipped with three-wire cord having the ground wire permanently connected to the tool frame and means for grounding the other end; or

(ii) Be of the double insulated type and permanently labeled as "Double Insulated"; or

(iii) Be connected to the power supply by means of an isolating transformer, or other isolated power supply.

(3) All hydraulic tools which are used on or around energized lines or equipment shall use nonconducting hoses having adequate strength for the normal operating pressures. It should be noted that the provisions of § 1926.302(d)(2) shall also apply.

(4) All pneumatic tools which are used on or around energized lines or equipment shall:

(i) Have nonconducting hoses having adequate strength for the normal operating pressures, and

(ii) Have an accumulator on the compressor to collect moisture.

§ 1926.952 Mechanical equipment.

(a) *General.* (1) Visual inspections shall be made of the equipment to determine that it is in good condition each day the equipment is to be used.

(2) Tests shall be made at the beginning of each shift during which the equipment is to be used to determine that the brakes and operating systems are in proper working condition.

(3) No employer shall use any motor vehicle equipment having an obstructed view to the rear unless:

(i) The vehicle has a reverse signal alarm audible above the surrounding noise level; or

(ii) The vehicle is backed up only when an observer signals that it is safe to do so.

(b) *Aerial lifts.* (1) The provisions of § 1926.556, Subpart N of this part, shall apply to the utilization of aerial lifts.

(2) When working near energized lines or equipment, aerial lift trucks shall be grounded or barricaded and considered as energized equipment, or the aerial lift truck shall be insulated for the work being performed.

(3) Equipment or material shall not be passed between a pole or structure and an aerial lift while an employee working from the basket is within reaching distance of energized conductors or equipment that are not covered with insulating protective equipment.

(c) *Derrick trucks, cranes and other lifting equipment.* (1) All derrick trucks, cranes and other lifting equipment shall comply with Subpart N and O of this part except:

(i) As stated in § 1926.550(a)(15) (i) and (ii) relating to clearance (for clearances in this subpart see Table V-1) and

(ii) Derrick truck (electric line trucks) shall not be required to comply with § 1926.550 (a) (7) (vi), (a) (17), (b) (2), and (e).

(2) With the exception of equipment certified for work on the proper voltage, mechanical equipment shall not be operated closer to any energized line or equipment than the clearances set forth in § 1926.950(c) unless:

(i) An insulated barrier is installed between the energized part and the mechanical equipment, or

(ii) The mechanical equipment is grounded, or

(iii) The mechanical equipment is insulated, or

(iv) The mechanical equipment is considered as energized.

§ 1926.953 Material handling.

(a) *Unloading.* Prior to unloading steel, poles, cross arms and similar material, the load shall be thoroughly examined to ascertain if the load has shifted, binders or stakes have broken or the load is otherwise hazardous to employees.

(b) *Pole hauling.* (1) During pole hauling operations, all loads shall be secured to prevent displacement and a red flag shall be displayed at the trailing end of the longest pole.

(2) Precautions shall be exercised to prevent blocking of roadways or endangering other traffic.

(3) When hauling poles during the hours of darkness, illuminated warning devices shall be attached to the trailing end of the longest pole.

(c) *Storage.* (1) No materials or equipment shall be stored under energized bus, energized lines, or near energized equipment, if it is practical to store them elsewhere.

(2) When materials or equipment are stored under energized lines or near energized equipment, applicable clearances shall be maintained as stated in Table V-1; and extraordinary caution shall be exercised when moving materials near such energized equipment.

(d) *Tag line.* Where hazards to employees exist tag lines or other suitable devices shall be used to control loads being handled by hoisting equipment.

(e) *Oil filled equipment.* During construction or repair of oil filled equipment the oil may be stored in temporary containers other than those required in § 1926.152, such as pillow tanks.

(f) *Framing.* During framing operations, employees shall not work under a pole or a structure suspended by a crane, A-frame or similar equipment unless the pole or structure is adequately supported.

(g) *Attaching the load.* The hoist rope shall not be wrapped around the load. This provision shall not apply to electric construction crews when setting or removing poles.

§ 1926.954 Grounding for protection of employees.

(a) *General.* All conductors and equipment shall be treated as energized until tested or otherwise determined to be de-energized or until grounded.

(b) *New construction.* New lines or equipment may be considered deenergized and worked as such where:

(1) The lines or equipment are grounded, or

(2) The hazard of induced voltages is not present, and adequate clearances or other means are implemented to prevent contact with energized lines or equipment and the new lines or equipment.

(c) *Communication conductors.* Bare wire communication conductors on power poles or structures shall be treated as energized lines unless protected by insulating materials.

(d) *Voltage testing.* Deenergized conductors and equipment which are to be grounded shall be tested for voltage. Results of this voltage test shall determine the subsequent procedures as required in § 1926.950(d).

(e) *Attaching grounds.* (1) When attaching grounds, the ground end shall be attached first, and the other end shall be attached and removed by means of insulated tools or other suitable devices.

(2) When removing grounds, the grounding device shall first be removed from the line or equipment using insulating tools or other suitable devices.

(f) *Grounds shall be placed between work location and all sources of energy and as close as practicable to the work location, or grounds shall be placed at the work location. If work is to be performed at more than one location in a line section, the line section must be grounded and short circuited at one location in the line section and the conductor to be worked on shall be grounded at each work location. The minimum distance shown in Table V-1 shall be maintained from ungrounded conductors at the work location. Where the making of a ground is impracticable, or the conditions resulting therefrom would be more hazardous than working on the lines or equipment without grounding, the grounds may be omitted and the line or equipment worked as energized.*

(g) *Testing without grounds.* Grounds may be temporarily removed only when necessary for test purposes and extreme caution shall be exercised during the test procedures.

(h) *Grounding electrode.* When grounding electrodes are utilized, such electrodes shall have a resistance to ground low enough to remove the danger of harm to personnel or permit prompt operation of protective devices.

(i) *Grounding to tower.* Grounding to tower shall be made with a tower clamp capable of conducting the anticipated fault current.

(j) *Ground lead.* A ground lead, to be attached to either a tower ground or driven ground, shall be capable of conducting the anticipated fault current and shall have a minimum conductance of No. 2 AWG copper.

§ 1926.955 Overhead lines.

(a) *Overhead lines.* (1) When working on or with overhead lines the provisions of paragraph (a) (2) through (8) of this section shall be complied with in addition to other applicable provisions of this subpart.

(2) Prior to climbing poles, ladders, scaffolds, or other elevated structures, an inspection shall be made to determine that the structures are capable of sustaining the additional or unbalanced stresses to which they will be subjected.

(3) Where poles or structures may be unsafe for climbing, they shall not be climbed until made safe by guying, bracing, or other adequate means.

(4) Before installing or removing wire or cable, strains to which poles and structures will be subjected shall be considered and necessary action taken to prevent failure of supporting structures.

(5) (i) When setting, moving, or removing poles using cranes, derricks, gin poles, A-frames, or other mechanized equipment near energized lines or equipment, precautions shall be taken to avoid contact with energized lines or equipment, except in bare-hand live-line work, or where barriers or protective devices are used.

(ii) Equipment and machinery operating adjacent to energized lines or equipment shall comply with § 1926.952(c) (2).

(6) (i) Unless using suitable protective equipment for the voltage involved, employees standing on the ground shall avoid contacting equipment or machinery working adjacent to energized lines or equipment.

(ii) Lifting equipment shall be bonded to an effective ground or it shall be considered energized and barricaded when utilized near energized equipment or lines.

(7) Pole holes shall not be left unattended or unguarded in areas where employees are currently working.

(8) Tag lines shall be of a nonconductive type when used near energized lines.

(b) *Metal tower construction.* (1) When working in unstable material the excavation for pad- or pile-type footings in excess of 5 feet deep shall be either sloped to the angle of repose as required in § 1926.652 or shored if entry is required. Ladders shall be provided for access to pad- or pile-type footing excavations in excess of 4 feet.

(2) When working in unstable material provision shall be made for cleaning out auger-type footings without requiring an employee to enter the footing unless shoring is used to protect the employee.

(3) (i) A designated employee shall be used in directing mobile equipment adjacent to footing excavations.

(ii) No one shall be permitted to remain in the footing while equipment is being spotted for placement.

(iii) Where necessary to assure the stability of mobile equipment the location of use for such equipment shall be graded and leveled.

(4) (i) Tower assembly shall be carried out with a minimum exposure of employees to falling objects when working at two or more levels on a tower.

(ii) Guy lines shall be used as necessary to maintain sections or parts of sections in position and to reduce the possibility of tipping.

(iii) Members and sections being assembled shall be adequately supported.

(5) When assembling and erecting towers the provisions of paragraph (b) (1), (ii) and (iii) of this section shall be complied with:

(i) The construction of transmission towers and the erecting of poles, hoisting machinery, site preparation machinery, and other types of construction machinery shall conform to the applicable requirements of this part.

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(ii) No one shall be permitted under a tower which is in the process of erection or assembly, except as may be required to guide and secure the section being set.

(iii) When erecting towers using hoisting equipment adjacent to energized transmission lines, the lines shall be deenergized when practical. If the lines are not deenergized, extraordinary caution shall be exercised to maintain the minimum clearance distances required by § 1926.950(c), including Table V-1.

(6) (i) Erection cranes shall be set on firm level foundations and when the cranes are so equipped outriggers shall be used.

(ii) Tag lines shall be utilized to maintain control of tower sections being raised and positioned, except where the use of such lines would create a greater hazard.

(iii) The loadline shall not be detached from a tower section until the section is adequately secured.

(iv) Except during emergency restoration procedures erection shall be discontinued in the event of high wind or other adverse weather conditions which would make the work hazardous.

(v) Equipment and rigging shall be regularly inspected and maintained in safe operating condition.

(7) Adequate traffic control shall be maintained when crossing highways and railways with equipment as required by the provisions of § 1926.200(g) (1) and (2).

(8) A designated employee shall be utilized to determine that required clearance is maintained in moving equipment under or near energized lines.

(c) *Stringing or removing deenergized conductors.* (1) When stringing or removing deenergized conductors, the provisions of subparagraph (2) through (12) of this paragraph shall be complied with.

(2) Prior to stringing operations a briefing shall be held setting forth the plan of operation and specifying the type of equipment to be used, grounding devices and procedures to be followed, crossover methods to be employed, and the clearance authorization required.

(3) Where there is a possibility of the conductor accidentally contacting an energized circuit or receiving a dangerous induced voltage buildup, to further protect the employee from the hazards of the conductor, the conductor being installed or removed shall be grounded or provisions made to insulate or isolate the employee.

(4) (i) If the existing line is deenergized, proper clearance authorization shall be secured and the line grounded on both sides of the crossover or, the line being strung or removed shall be considered and worked as energized.

(ii) When crossing over energized conductors in excess of 600 volts, rope nets or guard structures shall be installed unless provision is made to isolate or insulate the workman or the energized conductor. Where practical the automatic reclosing feature of the circuit interrupting device shall be made inoperative. In addition, the line being

strung shall be grounded on either side of the crossover or considered and worked as energized.

(5) Conductors being strung in or removed shall be kept under positive control by the use of adequate tension reels, guard structures, tielines, or other means to prevent accidental contact with energized circuits.

(6) Guard structure members shall be sound and of adequate dimension and strength, and adequately supported.

(7) (i) Catch-off anchors, rigging, and hoists shall be of ample capacity to prevent loss of the lines.

(ii) The manufacturer's load rating shall not be exceeded for stringing lines, pulling lines, sock connections, and all load-bearing hardware and accessories.

(iii) Pulling lines and accessories shall be inspected regularly and replaced or repaired when damaged or when dependability is doubtful. The provisions of § 1926.251(c) (4) (ii) (concerning splices) shall not apply.

(8) Conductor grips shall not be used on wire rope unless designed for this application.

(9) While the conductor or pulling line is being pulled (in motion) employees shall not be permitted directly under overhead operations, nor shall any employee be permitted on the crossarm.

(10) A transmission clipping crew shall have a minimum of two structures clipped in between the crew and the conductor being sagged. When working on bare conductors, clipping and tying crews shall work between grounds at all times. The grounds shall remain intact until the conductors are clipped in, except on dead end structures.

(11) (i) Except during emergency restoration procedures, work from structures shall be discontinued when adverse weather (such as high wind or ice on structures) makes the work hazardous.

(ii) Stringing and clipping operations shall be discontinued during the progress of an electrical storm in the immediate vicinity.

(12) (i) Reel handling equipment, including pulling and braking machines, shall have ample capacity, operate smoothly, and be leveled and aligned in accordance with the manufacturer's operating instructions.

(ii) Reliable communications between the reel tender and pulling rig operator shall be provided.

(iii) Each pull shall be snubbed or dead ended at both ends before subsequent pulls.

(d) *Stringing adjacent to energized lines.* (1) Prior to stringing parallel to an existing energized transmission line a competent determination shall be made to ascertain whether dangerous induced voltage buildups will occur, particularly during switching and ground fault conditions. When there is a possibility that such dangerous induced voltage may exist the employer shall comply with the provisions of paragraph (d) (2) through (9) of this section in addition to the provisions of paragraph (c) of this § 1926.955, unless the line is worked as energized.

(2) When stringing adjacent to energized lines the tension stringing method or other methods which preclude unintentional contact between the lines being pulled and any employee shall be used.

(3) All pulling and tensioning equipment shall be isolated, insulated, or effectively grounded.

(4) A ground shall be installed between the tensioning reel setup and the first structure in order to ground each bare conductor, subconductor, and overhead ground conductor during stringing operations.

(5) During stringing operations, each bare conductor, subconductor, and overhead ground conductor shall be grounded at the first tower adjacent to both the tensioning and pulling setup and in increments so that no point is more than 2 miles from a ground.

(i) The grounds shall be left in place until conductor installation is completed.

(ii) Such grounds shall be removed as the last phase of aerial cleanup.

(iii) Except for moving type grounds, the grounds shall be placed and removed with a hot stick.

(6) Conductors, subconductors, and overhead ground conductors shall be grounded at all dead-end or catch-off points.

(7) A ground shall be located at each side and within 10 feet of working areas where conductors, subconductors, or overhead ground conductors are being spliced at ground level. The two ends to be spliced shall be bonded to each other. It is recommended that splicing be carried out on either an insulated platform or on a conductive metallic grounding mat bonded to both grounds. When a grounding mat is used, it is recommended that the grounding mat be roped off and an insulated walkway provided for access to the mat.

(8) (i) All conductors, subconductors, and overhead ground conductors shall be bonded to the tower at any isolated tower where it may be necessary to complete work on the transmission line.

(ii) Work on dead-end towers shall require grounding on all deenergized lines.

(iii) Grounds may be removed as soon as the work is completed: *Provided*, That the line is not left open circuited at the isolated tower at which work is being completed.

(9) When performing work from the structures, clipping crews and all others working on conductors, subconductors, or overhead ground conductors shall be protected by individual grounds installed at every work location.

(e) *Live-line bare-hand work.* In addition to any other applicable standards contained elsewhere in this subpart all live-line bare-hand work shall be performed in accordance with the following requirements.

(1) Employees shall be instructed and trained in the live-line bare-hand technique and the safety requirements pertinent thereto before being permitted to use the technique on energized circuits.

(2) Before using the live-line bare-hand technique on energized high-voltage conductors or parts, a check shall be made of:

(i) The voltage rating of the circuit on which the work is to be performed;

(ii) The clearances to ground of lines and other energized parts on which work is to be performed; and

(iii) The voltage limitations of the aerial-lift equipment intended to be used.

(3) Only equipment designed, tested, and intended for live-line bare-hand work shall be used.

(4) All work shall be personally supervised by a person trained and qualified to perform live-line bare-hand work.

(5) The automatic reclosing feature of circuit interrupting devices shall be made inoperative where practical before working on any energized line or equipment.

(6) Work shall not be performed during the progress of an electrical storm in the immediate vicinity.

(7) A conductive bucket liner or other suitable conductive device shall be provided for bonding the insulated aerial device to the energized line or equipment.

(i) The employee shall be connected to the bucket liner by use of conductive shoes, leg clips, or other suitable means.

(ii) Where necessary, adequate electrostatic shielding for the voltage being worked or conductive clothing shall be provided.

(8) Only tools and equipment intended for live-line bare-hand work shall be used, and such tools and equipment shall be kept clean and dry.

(9) Before the boom is elevated, the outriggers on the aerial truck shall be extended and adjusted to stabilize the truck and the body of the truck shall be bonded to an effective ground, or barricaded and considered as energized equipment.

(10) Before moving the aerial lift into the work position, all controls (ground level and bucket) shall be checked and tested to determine that they are in proper working condition.

(11) Arm current tests shall be made before starting work each day, each time during the day when higher voltage is going to be worked and when changed conditions indicate a need for additional tests. Aerial buckets used for bare-hand live-line work shall be subjected to an arm current test. This test shall consist of placing the bucket in contact with an energized source equal to the voltage to be worked upon for a minimum time of three (3) minutes. The leakage current shall not exceed 1 microampere per kilovolt of nominal line-to-line voltage. Work operations shall be suspended immediately upon any indication of a malfunction in the equipment.

(12) All aerial lifts to be used for live-line bare-hand work shall have dual controls (lower and upper) as required by paragraph (e) (i) and (ii) of this section.

(i) The upper controls shall be within easy reach of the employee in the basket. If a two basket type lift is used access to the controls shall be within easy reach from either basket.

(ii) The lower set of controls shall be located near base of the boom that will

permit over-ride operation of equipment at any time.

(13) Ground level lift control shall not be operated unless permission has been obtained from the employee in lift, except in case of emergency.

(14) Before the employee contacts the energized part to be worked on, the conductive bucket liner shall be bonded to the energized conductor by means of a positive connection which shall remain attached to the energized conductor until the work on the energized circuit is completed.

(15) The minimum clearance distances for live-line bare-hand work shall be as specified in Table V-2. These minimum clearance distances shall be maintained from all grounded objects and from lines and equipment at a different potential than that to which the insulated aerial device is bonded unless such grounded objects or other lines and equipment are covered by insulated guards. These distances shall be maintained when approaching, leaving, and when bonded to the energized circuit.

TABLE V-2

Voltage range (phase-to-phase) kilovolts	Distance in feet and inches for maximum voltage	
	Phase to ground	Phase to phase
2.1-15	2'0"	2'0"
15.1-35	2'4"	2'4"
35.1-46	2'6"	2'6"
46.1-72.5	3'0"	3'0"
72.5-121	3'4"	4'6"
121-145	3'6"	5'0"
145-169	3'8"	5'0"
169-242	4'0"	5'4"
242-362	4'7"	13'4"
362-552	11'0"	12'0"
552-765	15'0"	13'0"

¹ NOTE: For 345-362kv., 500-552kv., and 700-765kv., the minimum clearance distance may be reduced provided the distances are not made less than the shortest distance between the energized part and a grounded surface.

(16) When approaching, leaving, or bonding to an energized circuit the minimum distances in Table V-2 shall be maintained between all parts of the insulated boom assembly and any grounded parts (including the lower arm or portions of the truck).

(17) When positioning the bucket alongside an energized bushing or insulator string, the minimum line-to-ground clearances of Table V-2 must be maintained between all parts of the bucket and the grounded end of the bushing or insulator string.

(18) (i) The use of handlines between buckets, booms, and the ground is prohibited.

(ii) No conductive materials over 36 inches long shall be placed in the bucket, except for appropriate length jumpers, armor rods, and tools.

(iii) Nonconductive-type handlines may be used from line to ground when not supported from the bucket.

(19) The bucket and upper insulated boom shall not be overstressed by attempting to lift or support weights in excess of the manufacturer's rating.

(20) (i) A minimum clearance table (as shown in table V-2) shall be printed on a plate of durable nonconductive material, and mounted in the buckets or its vicinity so as to be visible to the operator of the boom.

(ii) It is recommended that insulated measuring sticks be used to verify clearance distances.

§ 1926.956 Underground lines.

(a) *Guarding and ventilating street opening used for access to underground lines or equipment.* (1) Appropriate warning signs shall be promptly placed when covers of manholes, handholes, or vaults are removed. What is an appropriate warning sign is dependent upon the nature and location of the hazards involved.

(2) Before an employee enters a street opening, such as a manhole or an unvented vault, it shall be promptly protected with a barrier, temporary cover, or other suitable guard.

(3) When work is to be performed in a manhole or unvented vault:

(i) No entry shall be permitted unless forced ventilation is provided or the atmosphere is found to be safe by testing for oxygen deficiency and the presence of explosive gases or fumes;

(ii) Where unsafe conditions are detected, by testing or other means, the work area shall be ventilated and otherwise made safe before entry;

(iii) Provisions shall be made for an adequate continuous supply of air.

(b) *Work in manholes.* (1) While work is being performed in manholes, an employee shall be available in the immediate vicinity to render emergency assistance as may be required. This shall not preclude the employee in the immediate vicinity from occasionally entering a manhole to provide assistance, other than emergency. This requirement does not preclude a qualified employee, working alone, from entering for brief periods of time, a manhole where energized cables or equipment are in service, for the purpose of inspection, housekeeping, taking readings, or similar work if such work can be performed safely.

(2) When open flames must be used or smoking is permitted in manholes, extra precautions shall be taken to provide adequate ventilation.

(3) Before using open flames in a manhole or excavation in an area where combustible gases or liquids may be present, such as near a gasoline service station, the atmosphere of the manhole or excavation shall be tested and found safe or cleared of the combustible gases or liquids.

(c) *Trenching and excavating.* (1) During excavation or trenching, in order to prevent the exposure of employees to the hazards created by damage to dangerous underground facilities, efforts shall be made to determine the location of such facilities and work conducted in a manner designed to avoid damage.

(2) Trenching and excavation operations shall comply with §§ 1926.651 and 1926.652.

(3) When underground facilities are exposed (electric, gas, water, telephone, etc.) they shall be protected as necessary to avoid damage.

(4) Where multiple cables exist in an excavation, cables other than the one being worked on shall be protected as necessary.

(5) When multiple cables exist in an excavation, the cable to be worked on shall be identified by electrical means unless its identity is obvious by reason of distinctive appearance.

(6) Before cutting into a cable or opening a splice, the cable shall be identified and verified to be the proper cable.

(7) When working on buried cable or on cable in manholes, metallic sheath continuity shall be maintained by bonding across the opening or by equivalent means.

§ 1926.957 Construction in energized substations.

(a) *Work near energized equipment facilities.* (1) When construction work is performed in an energized substation, authorization shall be obtained from the designated, authorized person before work is started.

(2) When work is to be done in an energized substation, the following shall be determined:

(i) What facilities are energized, and
(ii) What protective equipment and precautions are necessary for the safety of personnel.

(3) Extraordinary caution shall be exercised in the handling of busbars, tower steel, materials, and equipment in the vicinity of energized facilities. The requirements set forth in § 1926.950(c), shall be complied with.

(b) *Deenergized equipment or lines.* When it is necessary to deenergize equipment or lines for protection of employees, the requirements of § 1926.950(d) shall be complied with.

(c) *Barricades and barriers.* (1) Barricades or barriers shall be installed to prevent accidental contact with energized lines or equipment.

(2) Where appropriate, signs indicating the hazard shall be posted near the barricade or barrier. These signs shall comply with § 1926.200.

(d) *Control panels.* (1) Work on or adjacent to energized control panels shall be performed by designated employees.

(2) Precaution shall be taken to prevent accidental operation of relays or other protective devices due to jarring, vibration, or improper wiring.

(e) *Mechanized equipment.* (1) Use of vehicles, gin poles, cranes, and other equipment in restricted or hazardous areas shall at all times be controlled by designated employees.

(2) All mobile cranes and derricks shall be effectively grounded when being moved or operated in close proximity to energized lines or equipment, or the equipment shall be considered energized.

(3) Fenders shall not be required for lowboys used for transporting large electrical equipment, transformers, or breakers.

(f) *Storage.* The storage requirements of § 1926.953(c) shall be complied with.

(g) *Substation fences.* (1) When a substation fence must be expanded or removed for construction purposes, a temporary fence affording similar protection, when the site is unattended, shall be provided. Adequate interconnection with ground shall be maintained between temporary fence and permanent fence.

(2) All gates to all unattended substations shall be locked, except when work is in progress.

(h) *Footing excavation.* (1) Excavation for auger, pad and piling type footings for structures and towers shall require the same precautions as for metal tower construction (see § 1926.955(b)(1)).

(2) No employee shall be permitted to enter an unsupported auger-type excavation in unstable material for any purpose. Necessary clean-out in such cases shall be accomplished without entry.

§ 1926.958 External load helicopters.

In all operations performed using a rotorcraft for moving or placing external loads, the provisions of § 1926.551 of Subpart N of this part shall be complied with.

§ 1926.959 Lineman's body belts, safety straps, and lanyards.

(a) *General requirements.* The requirements of paragraphs (a) and (b) of this section shall be complied with for all lineman's body belts, safety straps and lanyards acquired for use after the effective date of this subpart.

(1) Hardware for lineman's body belts, safety straps, and lanyards shall be drop forged or pressed steel and have a corrosive resistive finish tested to American Society for Testing and Materials B117-64 (50-hour test). Surfaces shall be smooth and free of sharp edges.

(2) All buckles shall withstand a 2,000-pound tensile test with a maximum permanent deformation no greater than one sixty-fourth inch.

(3) D rings shall withstand a 5,000-pound tensile test without failure. Failure of a D ring shall be considered cracking or breaking.

(4) Snaphooks shall withstand a 5,000-pound tensile test without failure. Failure of a snaphook shall be distortion sufficient to release the keeper.

(b) *Specific requirements.* (1) (i) All fabric used for safety straps shall withstand an A.C. dielectric test of not less than 25,000 volts per foot "dry" for 3 minutes, without visible deterioration.

(ii) All fabric and leather used shall be tested for leakage current and shall not exceed 1 milliamperes when a potential of 3,000 volts is applied to the electrodes positioned 12 inches apart.

(iii) Direct current tests may be permitted in lieu of alternating current tests.

(2) The cushion part of the body belt shall:

(i) Contain no exposed rivets on the inside;

(ii) Be at least three (3) inches in width;

(iii) Be at least five thirty-seconds ($\frac{5}{32}$) inch thick, if made of leather; and

(iv) Have pocket tabs that extended at least $1\frac{1}{2}$ inches down and three (3) inches back of the inside of circle of each D ring for riveting on plier or tool pockets. On shifting D belts, this measurement for pocket tabs shall be taken when the D ring section is centered.

(3) A maximum of four (4) tool loops shall be so situated on the body belt that four (4) inches of the body belt in the center of the back, measuring from D ring to D ring, shall be free of tool loops, and any other attachments.

(4) Suitable copper, steel, or equivalent liners shall be used around bar of D rings to prevent wear between these members and the leather or fabric enclosing them.

(5) All stitching shall be of a minimum 42-pound weight nylon or equivalent thread and shall be lock stitched. Stitching parallel to an edge shall not be less than three-sixteenths ($\frac{3}{16}$) inch from edge of narrowest member caught by the thread. The use of cross stitching on leather is prohibited.

(6) The keeper of snaphooks shall have a spring tension that will not allow the keeper to begin to open with a weight of $2\frac{1}{2}$ pounds or less, but the keeper of snaphooks shall begin to open with a weight of four (4) pounds, when the weight is supported on the keeper against the end of the nose.

(7) Testing of lineman's safety straps, body belts and lanyards shall be in accordance with the following procedure:

(i) Attach one end of the safety strap or lanyard to a rigid support, the other end shall be attached to a 250-pound canvas bag of sand:

(ii) Allow the 250-pound canvas bag of sand to free fall 4 feet for (safety strap test) and 6 feet for (lanyard test); in each case stopping the fall of the 250-pound bag;

(iii) Failure of the strap or lanyard shall be indicated by any breakage, or slippage sufficient to permit the bag to fall free of the strap or lanyard. The entire "body belt assembly" shall be tested using one D ring. A safety strap or lanyard shall be used that is capable of passing the "impact loading test" and attached as required in subdivision (i) of this subparagraph. The body belt shall be secured to the 250-pound bag of sand at a point to simulate the waist of a man and allowed to drop as stated in subdivision (ii) of this subparagraph. Failure of the body belt shall be indicated by any breakage, or slippage sufficient to permit the bag to fall free of the body belt.

§ 1926.960 Definition applicable to this subpart.

(a) *Alive or live (energized).* The term means electrically connected to a source of potential difference, or electrically charged so as to have a potential significantly different from that of the earth in the vicinity. The term "live" is sometimes used in place of the term "current-carrying," where the intent is clear, to avoid repetition of the longer term.

(b) *Automatic circuit recloser*. The term means a self-controlled device for automatically interrupting and reclosing an alternating current circuit with a predetermined sequence of opening and reclosing followed by resetting, hold closed, or lockout operation.

(c) *Barrier*. The term means a physical obstruction which is intended to prevent contact with energized lines or equipment.

(d) *Barricade*. The term means a physical obstruction such as tapes, screens, or cones intended to warn and limit access to a hazardous area.

(e) *Bond*. The term means an electrical connection from one conductive element to another for the purpose of minimizing potential differences or providing suitable conductivity for fault current or for mitigation of leakage current and electrolytic action.

(f) *Bushing*. The term means an insulating structure including a through conductor, or providing a passageway for such a conductor, with provision for mounting on a barrier, conducting or otherwise, for the purpose of insulating the conductor from the barrier and conducting current from one side of the barrier to the other.

(g) *Cable*. The term means a conductor with insulation, or a stranded conductor with or without insulation and other coverings (single-conductor cable) or a combination of conductors insulated from one another (multiple-conductor cable).

(h) *Cable sheath*. The term means a protective covering applied to cables.

Note: A cable sheath may consist of multiple layers of which one or more is conductive.

(i) *Circuit*. The term means a conductor or system of conductors through which an electric current is intended to flow.

(j) *Communication lines*. The term means the conductors and their supporting or containing structures which are used for public or private signal or communication service, and which operate at potentials not exceeding 400 volts to ground or 750 volts between any two points of the circuit, and the transmitted power of which does not exceed 150 watts. When operating at less than 150 volts no limit is placed on the capacity of the system.

Note: Telephone, telegraph, railroad signal, data, clock, fire, police-alarm, community television antenna, and other systems conforming with the above are included. Lines used for signaling purposes, but not included under the above definition, are considered as supply lines of the same voltage and are to be so run.

(k) *Conductor*. The term means a material, usually in the form of a wire, cable, or bus bar suitable for carrying an electric current.

(l) *Conductor shielding*. The term means an envelope which encloses the conductor of a cable and provides an equipotential surface in contact with the cable insulation.

(m) *Current-carrying part*. The term means a conducting part intended to be

connected in an electric circuit to a source of voltage. Non-current-carrying parts are those not intended to be so connected.

(n) *Dead (deenergized)*. The term means free from any electrical connection to a source of potential difference and from electrical charges: Not having a potential difference from that of earth.

Note: The term is used only with reference to current-carrying parts which are sometimes alive (energized).

(o) *Designated employee*. The term means a qualified person delegated to perform specific duties under the conditions existing.

(p) *Effectively grounded*. The term means intentionally connected to earth through a ground connection or connections of sufficiently low impedance and having sufficient current-carrying capacity to prevent the buildup of voltages which may result in undue hazard to connected equipment or to persons.

(q) *Electric line trucks*. The term means a truck used to transport men, tools, and material, and to serve as a traveling workshop for electric power line construction and maintenance work. It is sometimes equipped with a boom and auxiliary equipment for setting poles, digging holes, and elevating material or men.

(r) *Enclosed*. The term means surrounded by a case, cage, or fence, which will protect the contained equipment and prevent accidental contact of a person with live parts.

(s) *Equipment*. This is a general term which includes fittings, devices, appliances, fixtures, apparatus, and the like, used as part of, or in connection with, an electrical power transmission and distribution system, or communication systems.

(t) *Exposed*. The term means not isolated or guarded.

(u) *Electric supply lines*. The term means those conductors used to transmit electric energy and their necessary supporting or containing structures. Signal lines of more than 400 volts to ground are always supply lines within the meaning of the rules, and those of less than 400 volts to ground may be considered as supply lines, if so run and operated throughout.

(v) *Guarded*. The term means protected by personnel, covered, fenced, or enclosed by means of suitable casings, barrier rails, screens mats, platforms, or other suitable devices in accordance with standard barricading techniques designed to prevent dangerous approach or contact by persons or objects.

Note: Wires, which are insulated but not otherwise protected, are not considered as guarded.

(w) *Ground (Reference)*. The term means that conductive body, usually earth, to which an electric potential is referenced.

(x) *Ground (as a noun)*. The term means a conductive connection whether intentional or accidental, by which an electric circuit or equipment is connected to reference ground.

(y) *Ground (as a verb)*. The term means the connecting or establishment of a connection, whether by intention or accident of an electric circuit or equipment to reference ground.

(z) *Grounding electrode (ground electrode)*. The term grounding electrode means a conductor embedded in the earth, used for maintaining ground potential on conductors connected to it, and for dissipating into the earth current conducted to it.

(aa) *Grounding electrode resistance*. The term means the resistance of the grounding electrode to earth.

(bb) *Grounding electrode conductor (grounding conductor)*. The term means a conductor used to connect equipment or the grounded circuit of a wiring system to a grounding electrode.

(cc) *Grounded conductor*. The term means a system or circuit conductor which is intentionally grounded.

(dd) *Grounded system*. The term means a system of conductors in which at least one conductor or point (usually the middle wire, or neutral point of transformer or generator windings) is intentionally grounded, either solidly or through a current-limiting device (not a current-interrupting device).

(ee) *Hotline tools and ropes*. The term means those tools and ropes which are especially designed for work on energized high voltage lines and equipment. Insulated aerial equipment especially designed for work on energized high voltage lines and equipment shall be considered hot line.

(ff) *Insulated*. The term means separated from other conducting surfaces by a dielectric substance (including air space) offering a high resistance to the passage of current.

Note: When any object is said to be insulated, it is understood to be insulated in suitable manner for the conditions to which it is subjected. Otherwise, it is within the purpose of this subpart, uninsulated. Insulating covering of conductors is one means of making the conductor insulated.

(gg) *Insulation (as applied to cable)*. The term means that which is relied upon to insulate the conductor from other conductors or conducting parts or from ground.

(hh) *Insulation shielding*. The term means an envelope which encloses the insulation of a cable and provides an equipotential surface in contact with cable insulation.

(ii) *Isolated*. The term means an object that is not readily accessible to persons unless special means of access are used.

(jj) *Manhole*. The term means a sub-surface enclosure which personnel may enter and which is used for the purpose of installing, operating, and maintaining equipment and/or cable.

(kk) *Pulling tension*. The term means the longitudinal force exerted on a cable during installation.

(ll) *Qualified person*. The term means a person who by reason of experience or training is familiar with the operation to be performed and the hazards involved.

(mm) *Switch*. The term means a device for opening and closing or changing the connection of a circuit. In these rules, a switch is understood to be manually operable, unless otherwise stated.

(nn) *Tag*. The term means a system or method of identifying circuits, systems or equipment for the purpose of alerting persons that the circuit, system or equipment is being worked on.

(oo) *Unstable material*. The term means earth material, other than running, that because of its nature or the influence of related conditions, cannot be depended upon to remain in place without extra support, such as would be furnished by a system of shoring.

(pp) *Vault*. The term means an enclosure above or below ground which personnel may enter and is used for the purpose of installing, operating, and/or maintaining equipment and/or cable.

(qq) *Voltage*. The term means the effective (rms) potential difference between any two conductors or between a conductor and ground. Voltages are expressed in nominal values. The nominal voltage of a system or circuit is the value assigned to a system or circuit of a given voltage class for the purpose of convenient designation. The operating voltage of the system may vary above or below this value.

(rr) *Voltage of an effectively grounded circuit*. The term means the voltage between any conductor and ground unless otherwise indicated.

(ss) *Voltage of a circuit not effectively grounded*. The term means the voltage between any two conductors. If one circuit is directly connected to and supplied from another circuit of higher voltage (as in the case of an autotransformer), both are considered as of the higher voltage, unless the circuit of lower voltage is effectively grounded, in which case its voltage is not determined by the circuit of higher voltage. Direct connection implies electric connection as distinguished from connection merely through electromagnetic or electrostatic induction.

Subpart W—Rollover Protective Structures; Overhead Protection

§ 1926.1000 Rollover protective structures (ROPS) for material handling equipment.

(a) *Coverage*. (1) This section applies to the following types of material handling equipment: To all rubber-tired, self-propelled scrapers, rubber-tired front-end loaders, rubber-tired dozers, wheel-type agricultural and industrial tractors, crawler tractors, crawler-type loaders, and motor graders, with or without attachments, that are used in construction work. This requirement does not apply to sideboom pipelaying tractors.

(2) The promulgation of specific standards for rollover protective structures for compactors and rubber-tired skid-steer equipment is reserved pending consideration of standards currently being developed.

(b) *Equipment manufactured on or*

after September 1, 1972. Material handling machinery described in paragraph (a) of this section and manufactured on or after September 1, 1972, shall be equipped with rollover protective structures which meet the minimum performance standards prescribed in §§ 1926.1001 and 1926.1002, as applicable.

(c) *Equipment manufactured before September 1, 1972*. (1) All material handling equipment described in paragraph (a) of this section and manufactured or placed in service (owned or operated by the employer) prior to September 1, 1972, shall be fitted with rollover protective structures no later than the dates listed below:

(i) Machines manufactured on or after January 1, 1972, shall be fitted no later than April 1, 1973.

(ii) Machines manufactured between July 1, 1971, and December 31, 1971, shall be fitted no later than July 1, 1973.

(iii) Machines manufactured between July 1, 1970, and June 30, 1971, shall be fitted no later than January 1, 1974.

(iv) Machines manufactured between July 1, 1969, and June 30, 1970, shall be fitted no later than July 1, 1974.

(v) Machines manufactured before July 1, 1969: Reserved pending further study, development, and review.

(2) Rollover protective structures and supporting attachment shall meet the minimum performance criteria detailed in §§ 1926.1001 and 1926.1002, as applicable or shall be designed, fabricated, and installed in a manner which will support, based on the ultimate strength of the metal, at least two times the weight of the prime mover applied at the point of impact.

(i) The design objective shall be to minimize the likelihood of a complete overturn and thereby minimize the possibility of the operator being crushed as a result of a rollover or upset.

(ii) The design shall provide a vertical clearance of at least 52 inches from the work deck to the ROPS at the point of ingress or egress.

(d) *Remounting*. ROPS removed for any reason, shall be remounted with equal quality, or better, bolts or welding as required for the original mounting.

(e) *Labeling*. Each ROPS shall have the following information permanently affixed to the structure:

(1) Manufacturer or fabricator's name and address;

(2) ROPS model number, if any;

(3) Machine make, model, or series number that the structure is designed to fit.

(f) *Machines meeting certain existing governmental requirements*. Any machine in use, equipped with rollover protective structures, shall be deemed in compliance with this section if it meets the rollover protective structure requirements of the State of California, the U.S. Army Corps of Engineers, or the Bureau of Reclamation of the U.S. Department of the Interior in effect on April 5, 1972. The requirements in effect are:

(1) State of California: Construction Safety Orders, issued by the Department of Industrial Relations pursuant to Division 5, Labor Code, § 6312, State of California.

(2) U.S. Army Corps of Engineers: General Safety Requirements, EM-385-1-1 (March 1967).

(3) Bureau of Reclamation, U.S. Department of the Interior: Safety and Health Regulations for Construction, Part II (September 1971).

§ 1926.1001 Minimum performance criteria for rollover protective structures for designated scrapers, loaders, dozers, graders, and crawler tractors.

(a) *General*. This section prescribes minimum performance criteria for rollover protective structures (ROPS) for rubber-tired self-propelled scrapers; rubber-tired front-end loaders and rubber-tired dozers; crawler tractors, and crawler-type loaders, and motor graders. The vehicle and ROPS as a system shall have the structural characteristics prescribed in paragraph (f) of this section for each type of machine described in this paragraph.

(b) The static laboratory test prescribed herein will determine the adequacy of the structures used to protect the operator under the following conditions:

(1) For rubber-tired self-propelled scrapers, rubber-tired front-end loaders, and rubber-tired dozers: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to a maximum roll angle of 360° down a slope of 30° maximum.

(2) For motor graders: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to 360° down a slope of 30° maximum.

(3) For crawler tractors and crawler-type loaders: Operating between 0 and 10 miles per hour over hard clay where rollover would be limited to a maximum roll angle of 360° down a slope of 45°.

(c) *Facilities and apparatus*. (1) The following material is necessary:

(i) Material, equipment, and tiedown means adequate to insure that the ROPS and its vehicle frame absorb the applied energy.

(ii) Equipment necessary to measure and apply loads to the ROPS. Adequate means to measure deflections and lengths should also be provided.

(iii) Recommended, but not mandatory, types of test setups are illustrated in Figure W-1 for all types of equipment to which this section applies; and in Figure W-2 for rubber-tired self-propelled scrapers; Figure W-3 for rubber-tired front-end loaders, rubber-tired dozers, and motor graders; and Figure W-4 for crawler tractors and crawler-type loaders.

(2) Table W-1 contains a listing of the required apparatus for all types of equipment described in paragraph (a) of this section.

TABLE W-1

Means to measure	Accuracy
Deflection of ROPS, inches.	±5% of deflection measured.
Vehicle weight, pounds.	±5% of the weight measured.
Force applied to frame, pounds.	±5% of force measured.
Dimensions of critical zone, inches.	±0.5 in.

(d) *Vehicle condition.* The ROPS to be tested must be attached to the vehicle structure in the same manner as it will be attached during vehicle use. A totally assembled vehicle is not required. However, the vehicle structure and frame which support the ROPS must represent the actual vehicle installation. All normally detachable windows, panels, or nonstructural fittings shall be removed so that they do not contribute to the strength of the ROPS.

(e) *Test procedure.* The test procedure shall include the following, in the sequence indicated:

(1) Energy absorbing capabilities of ROPS shall be verified when loaded laterally by incrementally applying a distributed load to the longitudinal outside top member of the ROPS, as shown in Figure W-1, W-2, or W-3, as applicable. The distributed load must be applied so as to result in approximately uniform deflection of the ROPS. The load increments should correspond with approximately 0.5 in. ROPS deflection increment in the direction of the load application, measured at the ROPS top edge. Should the operator's seat be off-center, the load shall be applied on the off-center side. For each applied load increment, the total load (lb.) versus corresponding deflection (in.) shall be plotted, and the area under the load-deflection curve shall be calculated. This area is equal to the energy (in.-lb.) absorbed by the ROPS. For a typical load-deflection curve and calculation method, see Figure W-5.

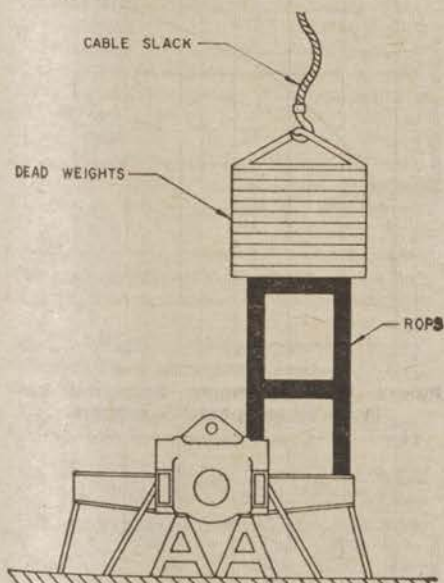


FIGURE W-1—Vertical loading setup for all types of equipment described in § 1518.1001(a).

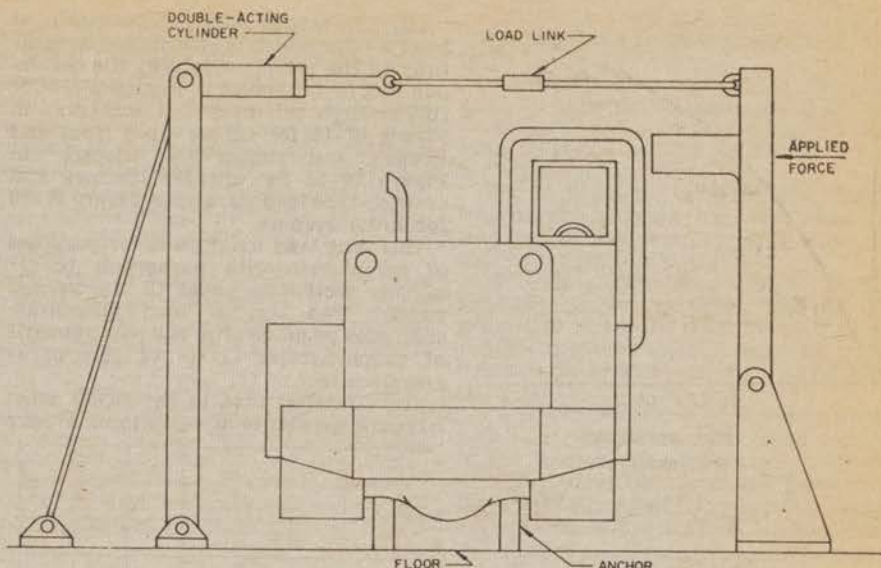


FIGURE W-2—Test setup for rubber-tired self-propelled scrapers.

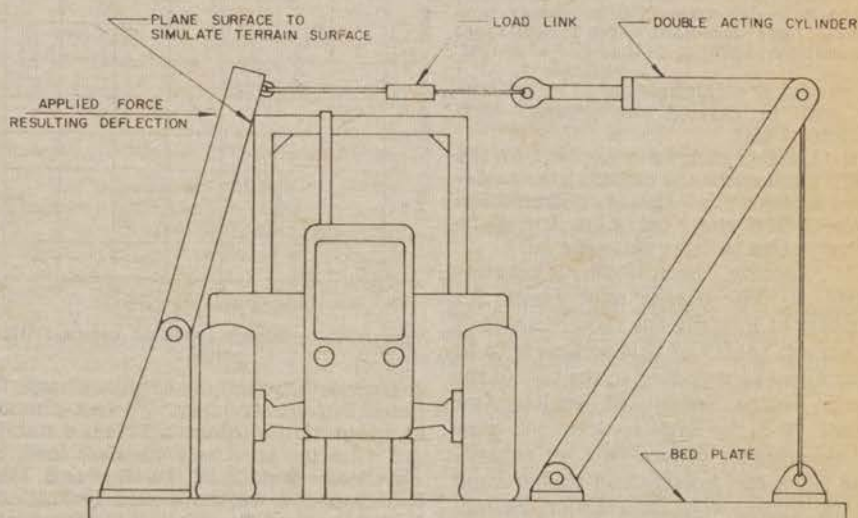


FIGURE W-3—Test setup for rubber-tired front-end loaders, rubber-tired dozers, and motor graders.

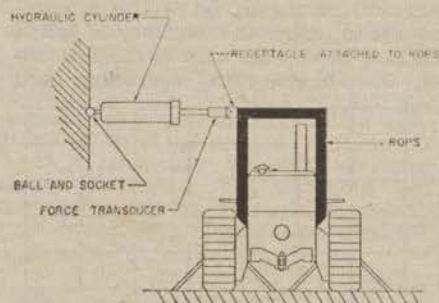


FIGURE W-4—Side-loading setup for crawler tractors and crawler loaders.

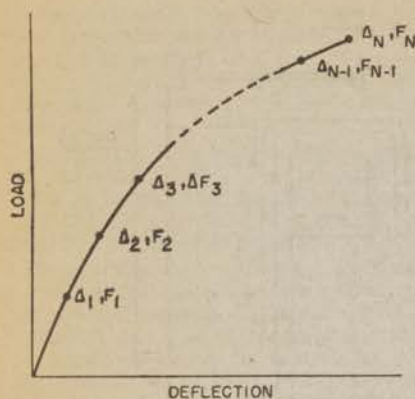
Incremental loading shall be continued until the ROPS has absorbed the amount

of energy and the minimum applied load specified under paragraph (f) of this section has been reached or surpassed.

(2) To cover the possibility of the vehicle coming to rest on its top, the support capability shall be verified by applying a distributed vertical load to the top of the ROPS so as to result in approximately uniform deflection (see Figure W-1). The load magnitude is specified in paragraph (f) (2) (iii) of this section.

(3) The low temperature impact strength of the material used in the ROPS shall be verified by suitable material tests or material certification (see paragraph (f) (2) (iv) of this section).

(f) *Performance requirements*—(1) General performance requirements. (1)



Δ - TOTAL DEFLECTION
F - FORCE APPLIED

$$\text{AREA} = \frac{\Delta_1 F_1}{2} + (\Delta_2 - \Delta_1) \frac{F_1 + F_2}{2} + (\Delta_3 - \Delta_2) \frac{F_2 + F_3}{2} + \dots + (\Delta_N - \Delta_{N-1}) \frac{F_{N-1} + F_N}{2}$$

FIGURE W-5—Determination of energy area under force deflection curve for all types of ROPS equipment defined in § 1926.1001.

No repairs or straightening of any member shall be carried out between each prescribed test.

(i) During each test, no part of the ROPS shall enter the critical zone as detailed in SAE J397 (1969). Deformation of the ROPS shall not allow the plane of the ground to enter this zone.

(2) *Specific performance requirements.* (i) The energy requirement for purposes of meeting the requirements of paragraph (e) (1) of this section is to be determined by referring to the plot of the energy versus weight of vehicle (see Figure W-6 for rubber-tired self-propelled scrapers; Figure W-7 for rubber-tired front-end loaders and rubber-tired dozers; Figure W-8 for crawler tractors and crawler-type loaders; and Figure W-9 for motor graders). For purposes of this section, force and weight are measured as pounds (lb.); energy (U) is measured as inch-pounds.

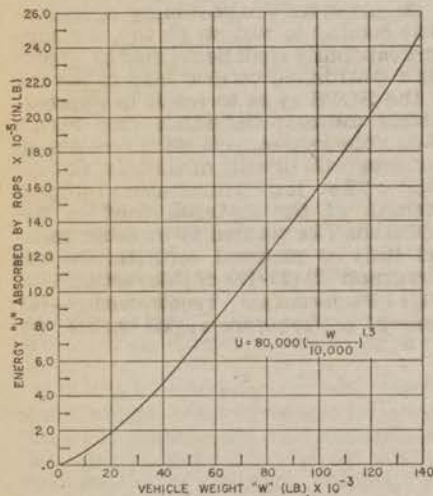


FIGURE W-6—Energy absorbed versus vehicle weight.

(ii) The applied load must attain at least a value which is determined by multiplying the vehicle weight by the corresponding factor shown in Figure W-10 for rubber-tired self-propelled scrapers; in Figure W-11 for rubber-tired front-end loaders and rubber-tired dozers; in Figure W-12 for crawler tractors and crawler-type loaders; and in Figure W-13 for motor graders.

(iii) The load magnitude for purposes of compliance with paragraph (e) (2) of this section is equal to the vehicle weight. The test of load magnitude shall only be made after the requirements of subparagraph (2) (i) of this paragraph are met.

(iv) Material used in the ROPS must have the capability of performing at zero

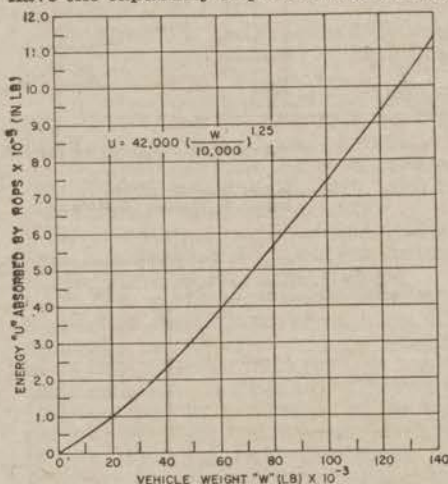


FIGURE W-7—Energy absorbed versus vehicle weight.

degrees Fahrenheit, or exhibit Charpy V notch impact strength of 8 foot-pounds at minus 20° Fahrenheit. This is a standard Charpy specimen as described in American Society of Testing and Materials A 370, Methods and Definitions for Mechanical Testing of Steel Products (available at each Regional Office of the Occupational Safety and Health Administration). The purpose of this requirement is to reduce the tendency of brittle fracture associated with dynamic loading, low temperature operation, and

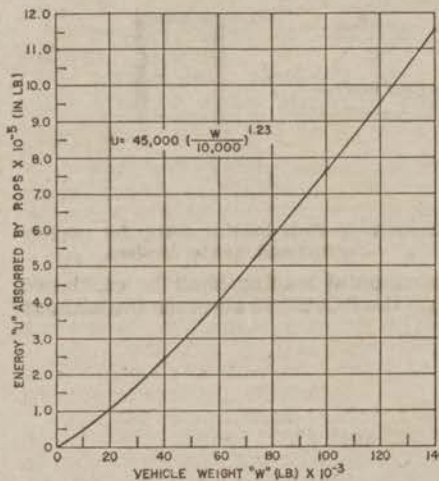


FIGURE W-8—Energy absorbed versus vehicle weight.

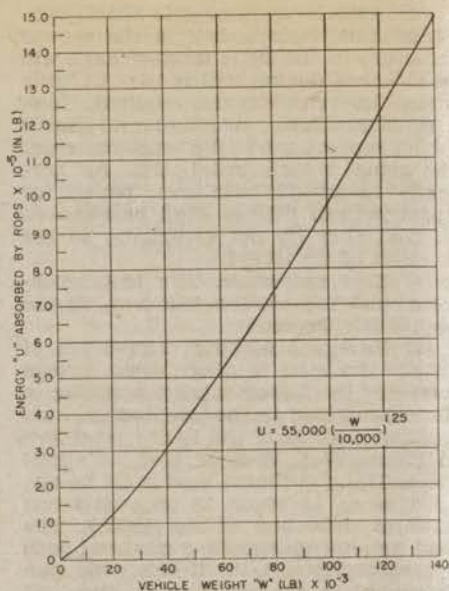


FIGURE W-9—Energy absorbed versus vehicle weight.

stress raisers which cannot be entirely avoided on welded structures.

(g) *Definitions.* For purposes of this section, "vehicle weight" means the manufacturer's maximum weight of the prime mover for rubber-tired self-propelled scrapers. For other types of equip-

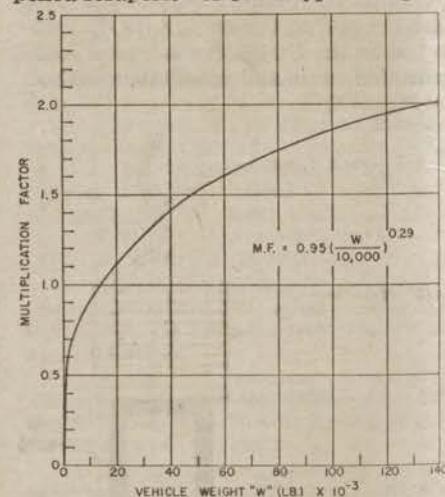


FIGURE W-10—Minimum horizontal load factor for self-propelled scrapers.

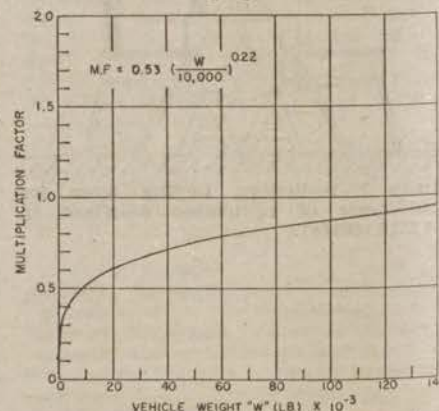


FIGURE W-11—Minimum horizontal load factor for rubber-tired loaders and dozers.

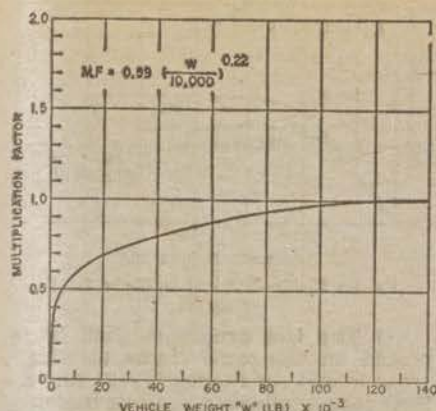


FIGURE W-12—Minimum horizontal load factor for crawler tractors and crawler-type loaders.

ment to which this section applies, "vehicle weight" means the manufacturer's maximum recommended weight of the vehicle plus the heaviest attachment.

(h) *Source of standard.* This standard is derived from, and restates, the following Society of Automotive Engineers Recommended Practices: SAE J320a, Minimum Performance Criteria for Roll-Over Protective Structure for Rubber-Tired, Self-Propelled Scrapers; SAE J394, Minimum Performance Criteria for Roll-Over Protective Structure for Rubber-Tired Front End Loaders and Rubber-Tired Dozers; SAE J395, Minimum Performance Criteria for Roll-Over Protective Structure for Crawler Tractors and Crawler-Type Loaders; and SAE

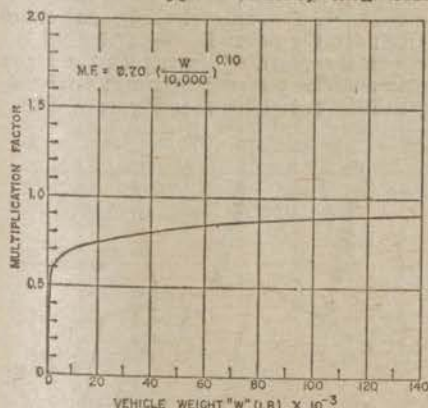


FIGURE W-13—Minimum horizontal load factor for motor graders.

J396, Minimum Performance Criteria for Roll-Over Protective Structure for Motor Graders. These recommended practices shall be resorted to in the event that questions of interpretation arise. The recommended practices appear in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

§ 1926.1002 Protective frame (ROPS) test procedures and performance requirements for wheel-type agricultural and industrial tractors used in construction.

(a) *General.* (1) The purpose of this section is to set forth requirements for

frames for the protection of operators of wheel type agricultural and industrial tractors to minimize the possibility of operator injury resulting from accidental upsets during normal operation. With respect to agricultural and industrial tractors, the provisions of §§ 1926.1001 and 1926.1003 for rubber-tired dozers and rubber-tired loaders may be utilized in lieu of the requirements of this section.

(2) The protective frame which is the subject of this standard is a structure mounted to the tractor that extends above the operator's seat and conforms generally to Figure W-14.

(3) If an overhead weather shield is attached to the protective frame, it may be in place during tests: *Provided*, That it does not contribute to the strength of the protective frame. If such an overhead weather shield is attached, it must meet the requirements of paragraph (i) of this section.

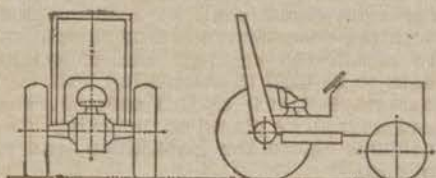


FIGURE W-14—Typical frame configuration.

(4) For overhead protection requirements, see § 1926.1003.

(5) If protective enclosures are used on wheel-type agricultural and industrial tractors, they shall meet the requirements of Society of Automotive Engineers Standard J168 (July 1970), Protective Enclosures, Test Procedures, and Performance Requirements. This standard appears in the 1971 SAE Handbook and may be examined in each Regional Office of the Occupational Safety and Health Administration.

(b) *Applicability.* The requirements of this section apply to wheel-type agricultural tractors used in construction work and to wheel-type industrial tractors used in construction work. See paragraph (j) of this section for definitions of agricultural tractors and industrial tractors.

(c) *Performance requirements.* (1) Either a laboratory test or a field test is required in order to determine the performance requirements set forth in paragraph (c) (i) of this section.

(2) A laboratory test may be either static or dynamic. The laboratory test must be under conditions of repeatable and controlled loading in order to permit analysis of the protective frame.

(3) A field upset test, if used, shall be conducted under reasonably controlled conditions, both rearward and sideways, to verify the effectiveness of the protective frame under actual dynamic conditions.

(d) *Test procedures—general.* (1) The tractor used shall be the tractor with the greatest weight on which the protective frame is to be used.

(2) A new protective frame and mounting connections of the same design shall be used for each test procedure.

(3) Instantaneous and permanent frame deformation shall be measured

and recorded for each segment of the test.

(4) Dimensions relative to the seat shall be determined with the seat unloaded and adjusted to its highest and most rearward latched position provided for a seated operator.

(5) If the seat is offset, the frame loading shall be on the side with the least space between the centerline of the seat and the upright.

(6) The low temperature impact strength of the material used in the protective structure shall be verified by suitable material tests or material certifications in accordance with § 1926.1001 (f) (2) (iv).

(e) *Test procedure for vehicle overturn—(1) Vehicle weight.* The weight of the tractor, for purposes of this section, includes the protective frame, all fuels, and other components required for normal use of the tractor. Ballast must be added if necessary to achieve a minimum total weight of 130 lb. (59 kg.) per maximum power takeoff horsepower at rated engine speed. The weight of the front end must be at least 33 lb. (15 kg.) per maximum power takeoff horsepower. In case power takeoff horsepower is unavailable, 95 percent of net engine flywheel horsepower shall be used.

(2) Agricultural tractors shall be tested at the weight set forth in paragraph (e) (1) of this section.

(3) Industrial tractors shall be tested with items of integral or mounted equipment and ballast that are sold as standard equipment or approved by the vehicle manufacturer for use with the vehicle where the protective frame is expected to provide protection for the operator with such equipment installed. The total vehicle weight and front end weight as tested shall not be less than the weights established in paragraph (e) (1) of this section.

(4) The test shall be conducted on a dry, firm soil bank as illustrated in Figure W-15. The soil in the impact area shall have an average cone index in the 0-6 in. (153 mm.) layer not less than 150 according to American Society of Agricultural Engineers Recommendation ASAE R313, Soil Cone Penetrometer (available in each Regional Office of the Occupational Safety and Health Administration). The path of travel of the vehicle shall be $12^\circ \pm 2^\circ$ to the top edge of the bank.

(5) The upper edge of the bank shall be equipped with an 18 in. (457 mm.) high ramp as described in Figure W-15 to assist in tipping the vehicle.

(6) The front and rear wheel tread settings, where adjustable, shall be at the position nearest to halfway between the minimum and maximum settings obtainable on the vehicle. Where only two settings are obtainable, the minimum setting shall be used.

RULES AND REGULATIONS

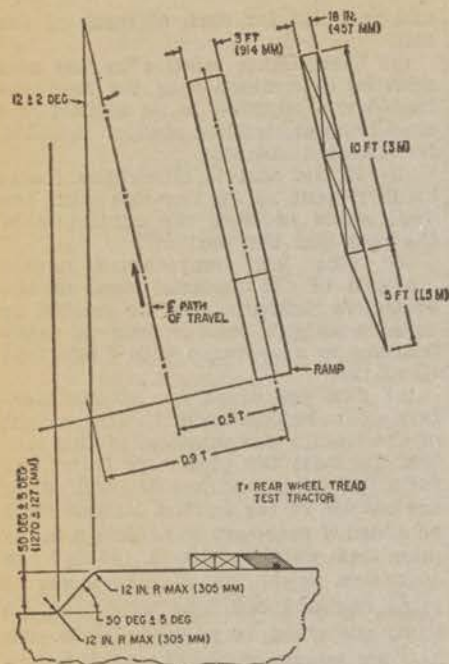


FIGURE W-15.

(7) **Vehicle Overturn Test—Sideways and Rearward.** (i) The tractor shall be driven under its own power along the specified path of travel at a minimum speed of 10 m.p.h. (16 km./hr.) or maximum vehicle speed if under 10 m.p.h. (16 km./hr.) up the ramp as described in subparagraph (5) of this paragraph to induce sideways overturn.

(ii) Rear upset shall be induced by engine power with the tractor operating in gear to obtain 3–5 m.p.h. (4.8–8 km./hr.) at maximum governed engine r.p.m. preferably by driving forward directly up a minimum slope of two vertical to one horizontal. The engine clutch may be used to aid in inducing the upset.

(f) **Other test procedures.** When the field upset test is not used to determine ROPS performance, either the static test or the dynamic test, contained in paragraph (g) or (h) of this section, shall be made.

(g) **Static test—(1) Test conditions.** (i) The laboratory mounting base shall include that part of the tractor chassis to which the protective frame is attached including the mounting parts.

(ii) The protective frame shall be instrumented with the necessary equipment to obtain the required load deflection data at the locations and directions specified in Figures W-16, W-17, and W-18.

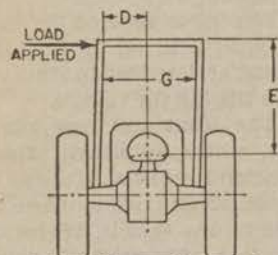


FIGURE W-16—Side load application.

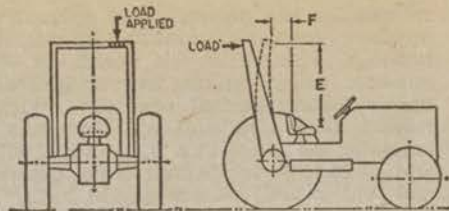


FIGURE W-17—Rear load application.

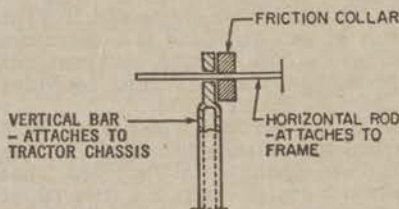


FIGURE W-18—Method of measuring instantaneous deflection.

(iii) The protective frame and mounting connections shall be instrumented with the necessary recording equipment to obtain the required load-deflection data to be used in calculating FSB (see paragraph (j) (3) of this section). The gauges shall be placed on mounting connections before the installation load is applied.

(2) **Test procedure.** (i) The side load application shall be at the upper extremity of the frame upright at a 90° angle to the centerline of the vehicle. The side load "L" shall be applied according to Figure W-16. "L" and "D" shall be recorded simultaneously. The test shall be stopped when:

(a) The strain energy absorbed by the frame is equal to the required input energy (E_u) or

(b) Deflection of the frame exceeds the allowable deflection, or

(c) The frame load limit occurs before the allowable deflection is reached in the side load.

(ii) The L-D diagram, as shown by means of a typical example in Figure W-19, shall be constructed, using the data obtained in accordance with paragraph (g) (2) (i) of this section.

(iii) The modified L_m-D_m diagram shall be constructed according to paragraph (g) (2) (ii) of this section and according to Figure W-20. The strain energy absorbed by the frame (E_u) shall then be determined.

(iv) E_u , FER, and FSB shall be calculated.

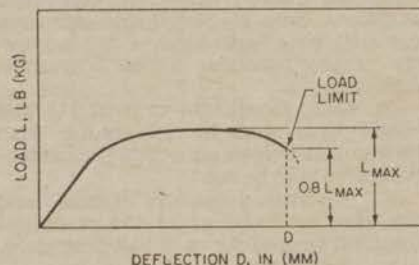
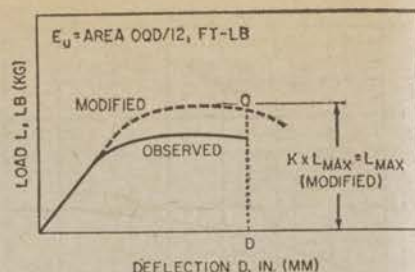


FIGURE W-19—Typical L-D diagram.

FIGURE W-20—Typical modified L_m-D_m diagram.

(v) The test procedure shall be repeated on the same frame utilizing L (rear input; see Figure W-18) and E_{1r} . Rear load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 sq. in. (1,032 sq. cm.) normal to the direction of load application. The load shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright.

(h) **Dynamic test—(1) Test conditions.** (i) The protective frame and tractor shall meet the requirements of paragraphs (e) (2) or (3) of this section, as appropriate.

(ii) The dynamic loading shall be produced by use of a 4,410 lb. (2,000 kg.) weight acting as a pendulum. The impact face of the weight shall be 27 plus or minus 1 in. by 27 plus or minus 1 in. (686+ or -25 mm.) and shall be constructed so that its center of gravity is within 1 in. (25.4 mm.) of its geometric center. The weight shall be suspended from a pivot point 18–22 ft. (5.5–6.7 m.) above the point of impact on the frame and shall be conveniently and safely adjustable for height. (See Figure W-21.)

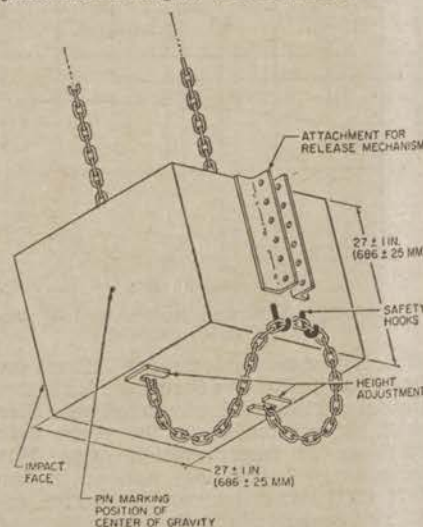


FIGURE W-21—Pendulum.

(iii) For each phase of testing, the tractor shall be restrained from moving when the dynamic load is applied. The restraining members shall be of 0.5–0.63 in. (12.5–16 mm.) steel cable and points of attaching restraining members shall be located an appropriate distance behind the rear axle and in front of the

front axle to provide a 15°-30° angle between a restraining cable and the horizontal. The restraining member shall either be in the plane in which the center gravity of the pendulum will swing or more than one restraining cable shall give a resultant force in this plane. (See Figure W-22.)

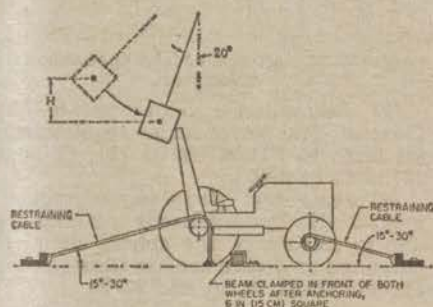


FIGURE W-22—Method of impact from rear.

(iv) The wheel tread setting shall comply with the requirements of paragraph (e) (6) of this section. The tires shall have no liquid ballast and shall be inflated to the maximum operating pressure recommended by the tire manufacturer. With specified tire inflation, the restraining cables shall be tightened to provide tire deflection of 6-8 percent of nominal tire section width. After the vehicle is properly restrained, a wooden beam 6 x 6 in. (15 x 15 cm.) shall be driven tightly against the appropriate wheels and clamped. For the test to the side, an additional wooden beam shall be placed as a prop against the wheel nearest the operator's station and shall be secured to the floor so that it is held tightly against the wheel rim during impact. The length of this beam shall be chosen so that when it is positioned against the wheel rim, it is at an angle of 25°-40° to the horizontal. It shall have a length 20-25 times its depth and a width two to three times its depth. (See Figures W-22 and W-23.)

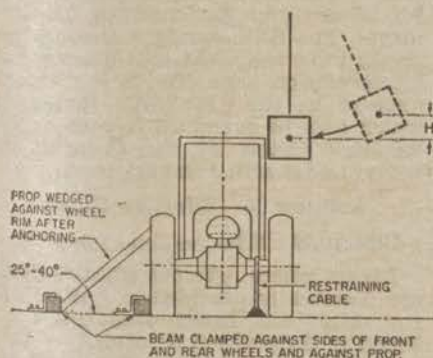


FIGURE W-23—Method of impact from side.

(v) Means shall be provided indicating the maximum instantaneous deflection along the line of impact. A simple friction device is illustrated in Figure W-23.

(vi) No repair or adjustments may be carried out during the test.

(vii) If any cables, props, or blocking shift or break during the test, the test shall be repeated.

(2) *Test procedure*—(i) *General*. The frame shall be evaluated by imposing dynamic loading to rear followed by a load to the side on the same frame. The pendulum dropped from the height (see definition "H" in paragraph (j) (3) of this section) imposes the dynamic load. The position of the pendulum shall be so selected that the initial point of impact on the frame shall be in line with the arc of travel of the center of gravity of the pendulum. A quick release mechanism should be used but, if used, shall not influence the attitude of the block.

(ii) *Impact at rear*. The tractor shall be properly restrained according to subparagraphs (1) (iii) and (iv) of this paragraph. The tractor shall be positioned with respect to the pivot point of the pendulum such that the pendulum is 20° from the vertical prior to impact, as shown in Figure W-22. The impact shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright of a new frame.

(iii) *Impact at side*. The block and restraining shall conform to subparagraphs (1) (iii) and (iv) of this paragraph. The point of impact shall be that structural member of the protective frame likely to hit the ground first in a sideways accidental upset. The side impact shall be applied to the side opposite that used for rear impact.

(i) *Performance requirements*—(1) *General*. (i) The frame, overhead weather shield, fenders, or other parts in the operator area may be deformed but shall not shatter or leave sharp edges exposed to the operator, or violate dimensions as shown in Figures W-16 and W-17 as follows:

D=2 in. (51 mm.) inside of frame upright to vertical centerline of seat.

E=30 in. (762 mm.).

F=Not less than 0 in. and not more than 12 in. (305 mm.), measured at centerline front of seat backrest to crossbar along the line of load application as shown in Figure W-17.

G=24 in. (610 mm.).

(ii) The material and design combination used in the protective structure must be such that the structure can meet all prescribed performance tests at zero degrees Fahrenheit in accordance with § 1926.1001(f) (2) (iv).

(2) *Vehicle overturn performance requirements*. The requirements of this paragraph (i) must be met in both side and rear overturns.

(3) *Static test performance requirements*. Design factors shall be incorporated in each design to withstand an overturn test as prescribed in this paragraph (1). The structural requirements will be generally met if FER is greater than 1 and FSB is greater than K-1 in both side and rear loadings.

(4) *Dynamic test performance requirements*. Design factors shall be incorporated

in each design to withstand the overturn test prescribed in this paragraph (1). The structural requirements will be generally met if the dimensions in this paragraph (1) are adhered to in both side and rear loads.

(j) *Definitions applicable to this section*. (1) SAE J333a, Operator Protection for Wheel-Type Agricultural and Industrial Tractors (July 1970) defines "agricultural tractor" as a "wheel-type vehicle of more than 20 engine horsepower designed to furnish the power to pull, carry, propel, or drive implements that are designed for agricultural usage." Since this Part 1926 applies only to construction work, the following definition of "agricultural tractor" is adopted for purposes of this subpart: "Agricultural tractor" means a wheel-type vehicle of more than 20 engine horsepower, used in construction work, which is designed to furnish the power to pull, propel, or drive implements.

(2) "Industrial tractor" means that class of wheeled type tractor of more than 20 engine horsepower (other than rubber-tired loaders and dozers described in § 1926.1001), used in operations such as landscaping, construction services, loading, digging, grounds keeping, and highway maintenance.

(3) The following symbols, terms, and explanations apply to this section:

E_{1s}=Energy input to be absorbed during side loading. E_{1s}=723+0.4 W ft.-lb. (E'_{1s}=100+0.12 W', m.-kg.).

E_{1r}=Energy input to be absorbed during rear loading. E_{1r}=0.47 W ft.-lb. (E'_{1r}=0.14 W', m.-kg.).

W=Tractor weight as prescribed in § 1926.1002 (e) (1) and (e) (3), in lb. (W', kg.).

L=Static load, lb. (kg.).

D=Deflection under L, in. (mm.).

L-D=Static load-deflection diagram.

L_m-D_m=Modified static load-deflection diagram (Figure W-20). To account for increase in strength due to increase in strain rate, raise L in plastic range to L x K.

K=Increase in yield strength induced by higher rate of loading (1.3 for hot rolled low carbon steel 1010-1030). Low carbon is preferable; however, if higher carbon or other material is used, K must be determined in the laboratory. Refer to Charles H. Norris, et al., Structural Design for Dynamic Loads (1959), p. 3.

L_{max}=Maximum observed static load.

Load Limit=Point on L-D curve where observed static load is 0.8 L_{max} (refer to Figure W-19).

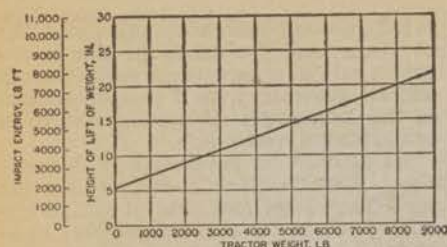
E_a=Strain energy absorbed by the frame, ft.-lb. (m.-kg.) area under L_m-D_m curve.

FER=Factor of energy ratio, FER=E_a/E_{1s}; also=E_a/E_{1r}.

P_b=Maximum observed force in mounting connection under static load, lb. (kg.).

FSB=Design margin for mounting connection FSB=(P_a/P_b)-1.

H=Vertical height of lift of 4,410 lb. (2,000 kg.) weight, in. (H', mm.). The weight shall be pulled back so that the height of its center of gravity above the point of impact is defined as follows: H=4.92 +0.00190 W or (H'=125+0.107 W') (Figure W-24).



NOTATION OF FORMULAS:
 $H = 4.92 + 0.0005W$ OR $H = 4.92 + 0.107W$
 W = TRACTOR WEIGHT AS DEFINED IN PARAGRAPH 3.3 IN POUNDS (W IN KG)

FIGURE W-24—Impact energy and corresponding lift height of 4,410 lb. (2,000 kg.) weight.

(k) **Source of standard.** The standard in this section is derived from, and restates, Society of Automotive Engineers Standard J334a (July 1970), Protective Frame Test Procedures and Performance Requirements. This standard shall be resorted to in the event that questions of interpretation arise. The standard appears in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

§ 1926.1003 Overhead protection for operators of agricultural and industrial tractors.

(a) **General.** (1) **Purpose.** When overhead protection is provided on wheel-type agricultural and industrial tractors, the overhead protection shall be designed and installed according to the requirements contained in this section. The provisions of § 1926.1001 for rubber-tired dozers and rubber-tired loaders may be used in lieu of the standards contained in this section. The purpose of the standard is to minimize the possibility of operator injury resulting from overhead hazards such as flying and falling objects, and at the same time to minimize the possibility of operator injury from the cover itself in the event of accidental upset.

(2) **Applicability.** This standard applies to wheel-type agricultural tractors used in construction work and to wheel-type industrial tractors used in construction work. See § 1926.1002 (b) and (j). In the case of machines to which § 1926.604 (relating to site clearing) also applies, the overhead protection may be either the type of protection provided in § 1926.604 or the type of protection provided by this section.

(b) **Overhead protection.** When overhead protection is installed on wheel-type agricultural or industrial tractors used in construction work, it shall meet the requirements of this paragraph. The overhead protection may be constructed of a solid material. If grid or mesh is used, the largest permissible opening shall be such that the maximum circle which can be inscribed between the elements of the grid or mesh is 1.5 in. (38 mm.) in diameter. The overhead protection shall not be installed in such a way as to become a hazard in the case of upset.

(c) **Test procedures—general.** (1) The requirements of § 1926.1002 (d), (e), and (f) shall be met.

(2) Static and dynamic rear load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 in.² (1,032 cm.²) normal to the direction of load application. The load shall be applied to the upper extremity of the frame at the point which is midway between the centerline of the seat and the inside of the frame upright.

(3) The static and dynamic side load application shall be uniformly distributed along a maximum projected dimension of 27 in. (686 mm.) and a maximum area of 160 in.² (1,032 cm.²) normal to the direction of load application. The direction of load application is the same as in § 1926.1002 (g) and (h). To simulate the characteristics of the structure during an upset, the center of load application may be located from a point 24 in. (610 mm.) (K) forward to 12 in. (305 mm.) (L) rearward of the front of the seat backrest to best utilize the structural strength. See Figure W-25.

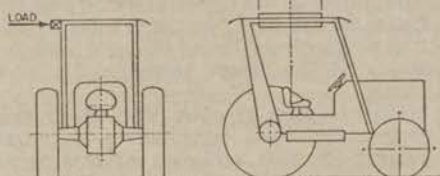


FIGURE W-25—Location for side load.

(d) **Drop test procedures.** (1) The same frame shall be subjected to the drop test following either the static or dynamic test.

(2) A solid steel sphere or material of equivalent spherical dimension weighing 100 lb. (45.4 kg.) shall be dropped once from a height 10 ft. (3,048 mm.) above the overhead cover.

(3) The point of impact shall be on the overhead cover at a point within the zone of protection as shown in Figure W-26, which is furthest removed from major structural members.

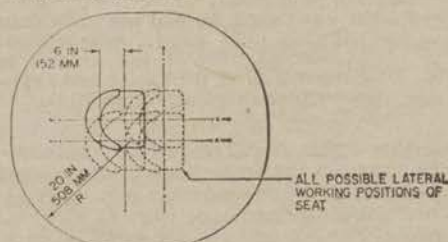


FIGURE W-26—Zone of protection for drop test.

(e) **Crush test procedure.** (1) The same frame shall be subjected to the crush test following the drop test and static or dynamic test.

(2) The test load shall be applied as shown in Figure W-27 with the seat positioned as specified in § 1926.1002 (d) (4). Loading cylinders shall be pivotally mounted at both ends. Loads applied by each cylinder shall be equal within 2 percent, and the sum of the loads of the two cylinders shall be two times the tractor weight as set forth in § 1926.1002 (e) (1). The maximum width of the beam illus-

trated in Figure W-27 shall be 6 in. (152 mm.).

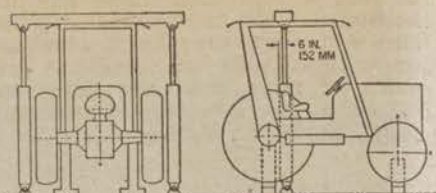


FIGURE W-27—Method of load application for crush test.

(f) **Performance requirements.** (1) **General.** The performance requirements set forth in § 1926.1002 (i) (2), (3), and (4) shall be met.

(2) **Drop test performance requirements.** (i) Instantaneous deformation due to impact of the sphere shall not enter the protected zone as illustrated in Figures W-25, W-26, and W-28.

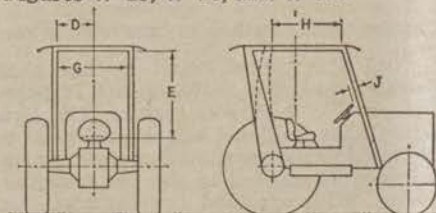


FIGURE W-28—Protected zone during crush and drop tests.

(ii) In addition to the dimensions set forth in § 1926.1002 (i) (1) (i), the following dimensions apply to Figure W-28:

H = 17.5 in. (444 mm.)

J = 2 in. (50.8 mm.) measured from the outer periphery of the steering wheel.

(3) **Crush test performance requirements.** The protected zone as described in Figure W-28 must not be violated.

(g) **Source of standard.** This standard is derived from, and restates, the portions of Society of Automotive Engineers Standard J167 which pertain to overhead protection requirements. The full title of the SAE standard is: Protective Frame with Overhead Protection—Test Procedures and Performance Requirements. The SAE standard shall be resorted to in the event that questions of interpretation arise. The SAE standard appears in the 1971 SAE Handbook, which may be examined in each of the Regional Offices of the Occupational Safety and Health Administration.

Subpart X—Effective Dates

§ 1926.1050 Effective dates (general).

Except where different effective dates are specifically provided in § 1926.1051, the safety and health standards published in Subparts C through U of this part shall become effective on April 24, 1971, for all Federal and federally assisted advertised contracts subject thereto which are advertised after that date and on April 27, 1971, for all such negotiated contracts for which negotiations begin after that date.

§ 1926.1051 Effective dates (specific).

(a) With respect to standards concerning brakes and fenders prescribed in

\$ 1926.602, the rules contained therein specify the applicable effective dates.
(b) (1) To the extent that the standards in this part apply to light residential construction, their application is delayed until September 27, 1971, whereupon the standards shall apply to construction subject to the Contract Work Hours and Safety Standards Act which are advertised on or after that date and

to such contracts which may be negotiated when the negotiations commence on or after that date.
(2) For the purpose of this paragraph, the term "light residential construction" is limited to the construction of homes and apartments which do not exceed three stories in height, and which do not have an elevator.

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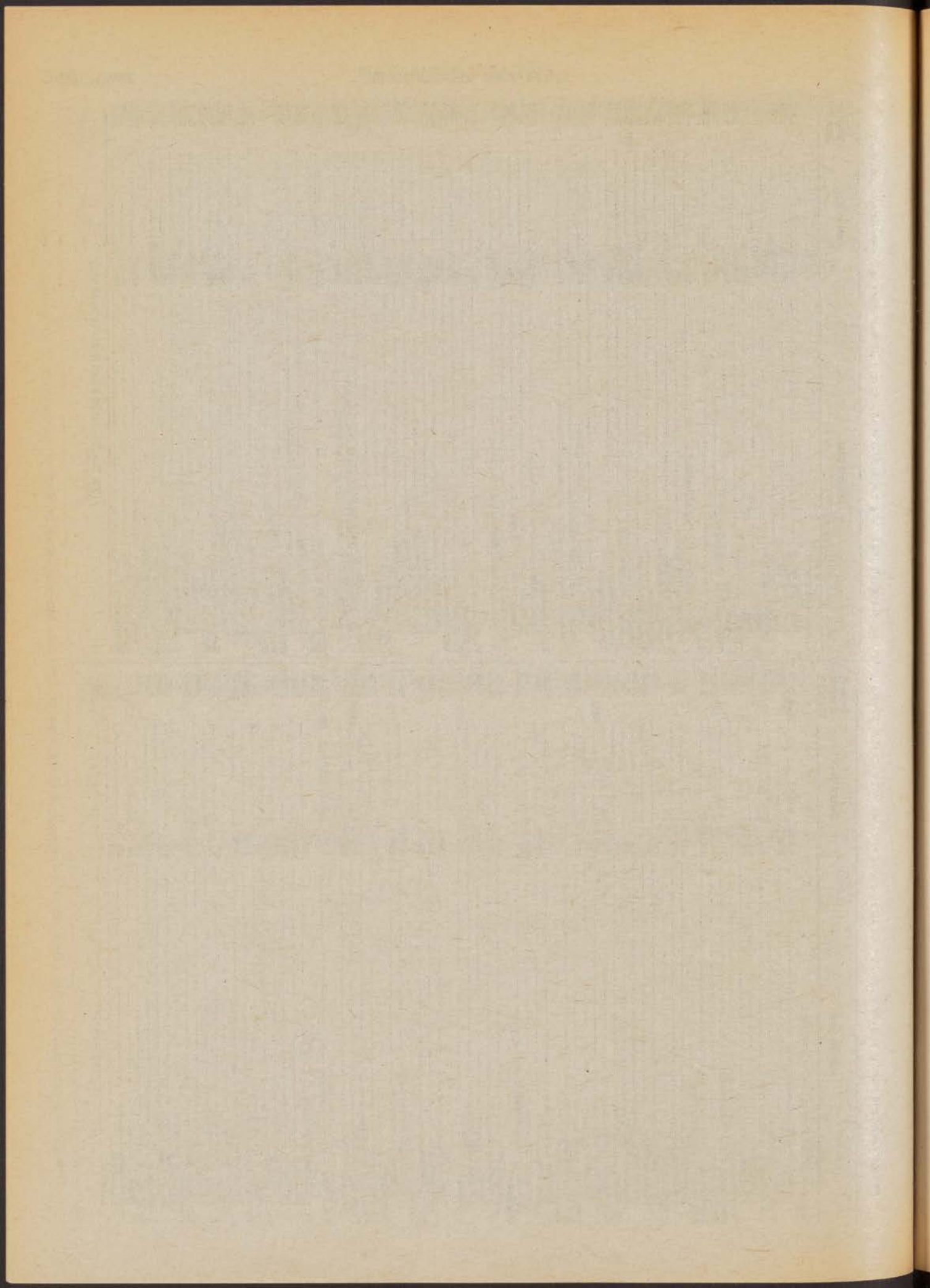
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PART III



DEPARTMENT OF COMMERCE

National Oceanic and
Atmospheric Administration



MARINE MAMMAL PROTECTION ACT

Report of Secretary of Commerce

CORRECTED PAGE NUMBERS

This Part III was numbered incorrectly as originally published. This reprint contains the full text with the correct page numbers.

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric
Administration

MARINE MAMMAL PROTECTION ACT
Report of the Secretary of Commerce

Section 103(f) of the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361, 86 Stat. 1027 (1972)) states that "Within six months after the effective date of this Act (December 21, 1972) and every twelve months thereafter, the Secretary shall report to the public through publication in the FEDERAL REGISTER and to the Congress on the current status of all marine mammal species and population stocks subject to the provisions of this Act. His report shall describe those actions taken and those measures believed necessary, including where appropriate, the issuance of permits pursuant to this title to assure the well-being of such marine mammals."

Section 3(12)(A) of the Act limits the responsibility of the Department of Commerce to those mammals which are members of the order Cetacea (whales and porpoises) and members, other than walrus, of the order Pinnipedia (seals and sea lions). Accordingly, there is published herewith the report of the Secretary of Commerce for the period June 22, 1973, to April 30, 1974, on the administration of the Act with regard to those mammals.

Issued at Washington, D.C., and dated June 18, 1974.

FREDERICK B. DENT,
Secretary of Commerce.

ADMINISTRATION OF THE MARINE MAMMAL
PROTECTION ACT OF 1972, JUNE 1974

REPORT OF THE SECRETARY OF COMMERCE

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Prepared by The National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Washington, D.C. 20235, June, 1974.

ADMINISTRATION OF THE MARINE MAMMAL PROTECTION ACT OF 1972; JUNE 22, 1973, TO APRIL 30, 1974

Introduction—Authority for the report and administration of the Act. This report is made pursuant to requirements of section 103 (f) of the Marine Mammal Protection Act of 1972 (86 Stat. 1027; hereinafter, the "Act"). It covers the period from June 22, 1973, through April 30, 1974, and is prepared in three parts: The first deals with actions taken to assure the well-being of marine mammals; the second defines the current status of the stocks of marine mammals for which the Secretary of Commerce has responsibility; and the third part contains the appendices. This is the second such report—the first report covered the period from December 21, 1972, through June 21, 1973, was submitted to Congress as required by the Act on July 27, 1973, and to the public on August 1, 1973, (38 FR 20564).

The Act, with certain exceptions, places an immediate moratorium on the taking and importation of all marine mammals and marine mammal products. It makes the Secretary of Commerce responsible for protecting whales, porpoises, seals, and sea lions, and the Secretary of the Interior responsible for all other marine mammals, specifically sea otters, walrus, polar bears, and manatees. On November 30, 1972, the Secretary of Commerce delegated authority for the functions prescribed by the Act to the Administrator of the National Oceanic and Atmospheric Administration (NOAA). On February 9, 1973, the Administrator delegated this authority to the Director, National Marine Fisheries Service (NMFS).

Regulations promulgated or proposed. On August 16, 1973, a notice of proposed rulemaking Governing the Taking and Importing of Marine Mammals, as required by section 112 of the Marine Mammal Protection Act of 1972, was published by NOAA/NMFS in the FEDERAL REGISTER (38 FR 22133). Publication was accompanied by a statement that written comments, views or objections to those proposed regulations could be submitted to the Director, NMFS, during the 45-day period ending October 1, 1973. Final Regulations (Appendix A) were published in the FEDERAL REGISTER on January 15, 1974, and became effective the same date (39 FR 1851). These superseded the Interim Regulations Governing the Taking and Importing of Marine Mammals, which were published in the FEDERAL REGISTER on December 21, 1972, and became effective the same date (37 FR 28177); they also reflected the 22 comments on the published proposed rulemaking of August 16, 1973; they corrected certain technical errors and omissions; they deleted reference to regulations implementing the economic hardship provision of the Act, which expired October 21, 1973; and they effected additional changes in the definitions and the prohibitions as a result of the enactment of the Endangered Species Act of 1973 (PL 93-205).

On April 23, 1974, an amendment to the final regulations (Appendix B) was published in the FEDERAL REGISTER (39 FR 14348). It was the intention of NOAA/NMFS to clarify, through that amendment, the procedures to be followed in submitting applications for scientific research and public display permits.

The Marine Mammal Protection Act of 1972 contains specific provisions concerning the incidental take of marine mammals in connection with commercial fishing operations. Section 101(a)(2) of the Act excludes commercial fishermen from permit requirements to take marine mammals in their operations until October 20, 1974. They are, however, subject to interim regulations promulgated under section 111.

Interim regulations under section 111 were proposed on November 12, 1973, (38 FR 31180), (Appendix C) to require tuna purse seiners engaged in the catching and landing of yellowfin tuna to equip their nets with a 2-inch stretch mesh porpoise safety panel, to close hand-hold areas, to tighten cockpit hangings, and to use backdown or other release procedures until all live marine mammals are released. These interim regulations were adopted on January 22, 1974, (39 FR 2481), to be effective April 1, 1974, (Appendix D). A shortage of nylon netting brought about by the petroleum shortage delayed implementation of the panel regulation until June 1, 1974. A statement to that effect was published in the FEDERAL REGISTER on March 13, 1974 (39 FR 9684).

Proposed regulations were published April 5, 1974, (39 FR 12356), to implement a general permit system for commercial fishermen, to become effective October 21, 1974, (Appendix E). The proposed regulations were framed around the type of gear utilized by fishermen (five categories) and requiring certificates of inclusion under general permits for each type of gear. The five categories of gear proposed were towed or dragged gear; encircling gear, tuna purse-seining; encircling gear, seining other than tuna; stationary gear; and other gear. Fishermen who do not encounter marine mammals or can avoid taking them do not require permits.

An environmental impact statement was deemed necessary for the promulgation of regulations designed to grant permits to tuna fishermen for the taking of porpoise incidental to the course of their fishing operations. Accordingly a draft environmental impact statement (DEIS) was prepared and issued on April 5, 1974.

Public hearings on the proposed regulations and on the DEIS were held to give interested persons an opportunity to place their views on the record. Hearings on the DEIS will be held in Washington, D.C. on May 7, 1974, and at Terminal Island, California, on May 9, 1974. A formal hearing on the proposed regulations as required by the Act will be held in Seattle, Washington, on May 15, 1974. A decision on these regulations is due on or about June 30, 1974.

Legal actions brought against the Federal Government. During the term covered by this report, three legal actions related to the administration of the Act by the Department of Commerce were filed in the United States District Court for the District of Columbia. These were:

Project Jonah, et al. v. Dent, et al. Filed on June 21, 1973, this action sought to compel the defendants (1) to promulgate interim regulations under section 111 of the Act to reduce the hazards to marine mammals incident to commercial fishing operations, and (2) to prepare and file a report on the current status of all marine mammals subject to the Act as required by section 103(f) of the Act. The suit was dismissed due to mootness on February 4, 1974, reflecting the fact that the regulations and report in question were promulgated and filed as required by the Act.

Fund for Animals, et al. v. Dent. Filed on September 13, 1973, this action sought to enjoin the granting of an economic hardship exemption to the Fouke Company of Greenville, South Carolina, to authorize its importation of fur sealskins from the Republic of South Africa. The plaintiffs requested that the suit be dismissed on September 21, 1973, after the judge had ruled that, among other things, the Secretary was not arbitrary or capricious in issuing the Letter of Exemption.

Friends of Animals, Inc., et al. v. Joseph Blum, et al. Filed on April 15, 1974, this action would in effect require the court to interpret the provision of the Act which prohibits the importation of marine mammals which were "nursing at the time of taking." A judicial decision has not been rendered on the merits of the action.

Impact of Endangered Species Act of 1973 on Marine Mammal Protection Act Administration. The enactment of the Endangered Species Act of 1973 on December 28, 1973, had the following effects on the Marine Mammal Protection Act of 1972:

(a) Amended the references to the Endangered Species Conservation Act of 1969—

(1) By striking out "Endangered Species Conservation Act of 1969" in section 3(1)(B) thereof and inserting in lieu thereof the following: "Endangered Species Act of 1973";

(2) By striking out "pursuant to the Endangered Species Conservation Act of 1969" in section 101(a)(3)(B) thereof and inserting in lieu thereof the following: "or threatened species pursuant to the Endangered Species Act of 1973";

(3) By striking out "endangered under the Endangered Species Conservation Act of 1969" in section 102(b)(3) thereof and inserting in lieu thereof the following: "an endangered species pursuant to the Endangered Species Act of 1973"; and

(4) By striking out "of the Interior such revisions of the Endangered Species List, authorized by the Endangered Species Conservation Act of 1969," in section 202(a)(6) thereof and inserting in lieu thereof the following: "such revisions of the endangered species list and threatened species list published pursuant to section 4(c)(1) of the Endangered Species Act of 1973."

(b) Stated that except as otherwise provided for in the Endangered Species Act of 1973, no provision of the Endangered Species Act of 1973 shall take precedence over any more restrictive conflicting provision of the Marine Mammal Protection Act of 1972.

Congressional oversight hearings. Concerned with the details of the adminis-

tration of the Act, the Subcommittee on Fisheries and Wildlife Conservation and the Environment of the House Committee on Merchant Marine and Fisheries held oversight hearings at La Jolla, California, and at Anchorage, Alaska, in August 1973, and at Washington, D.C. in January 1974. Testifying at the January hearings, Robert W. Schoning, Director of the NMFS, reported on the progress and problems experienced during the first fifteen months of the administration of the Act.

Marine Mammal Commission. On May 14, 1973, President Nixon announced the appointment of the three-man Marine Mammal Commission provided for under the Act. The Commissioners appointed were:

Victor B. Scheffer, Bellevue, Washington, a marine mammal biologist retired from the United States Fish and Wildlife Service. He serves as Chairman.

A. Starker Leopold, Professor of Zoology, University of California at Berkeley.

John Ryther, Chairman, Department of Biology, Woods Hole Oceanographic Institution, Falmouth, Massachusetts. Mr. Ryther resigned shortly after his appointment. A replacement has not been appointed.

On August 6, 1973, the Marine Mammal Commission announced the appointment of the Committee of Scientific Advisors. The Committee members appointed were:

Dr. George A. Bartholomew
Department of Biology
University of California
Los Angeles, CA 90024

Dr. Douglas G. Chapman
College of Fisheries
University of Washington
Seattle, WA 98195

Dr. Kenneth S. Norris
Division of Natural Sciences
University of California
Santa Cruz, CA 95060

Mr. William E. Schevill
Museum Comparative Zoology
Harvard University
Cambridge, MA 02138

Dr. Jesse R. White
11025 SW 173d Terrace
Miami, FL 33157

Mr. John L. Burns
Alaska Department of Fish & Game
P.O. Box 80746
College, AK 99701

Mr. Jack W. Lentfer
U.S. Bureau of Sport Fisheries & Wildlife
813 D Street
Anchorage, AK 99501

Dr. G. Carleton Ray
Department of Pathobiology
Johns Hopkins University
615 N. Wolfe Street
Baltimore, MD 21205

Dr. Donald B. Siniff
Department of Ecology & Behavioral Biology
University of Minnesota
St. Paul, MN 55101

Title II of the Act which established the Marine Mammal Commission and Committee of Scientific Advisors prescribes extensive consultation roles for the Commission and the Committee with the Secretaries of Commerce and the Interior.

The Commission, not funded until November 1973, nevertheless was consulted as fully as possible in the interim before

funding. The Committee of Scientific Advisors first met on January 18 and 19, 1974, to study the review procedures and pending applications. Following the establishment and staffing of Commission offices, the full consultative role prescribed by the Act was implemented. Interface with the Commission is now possible on a daily basis, and formal review of permit applications is accomplished through established procedures. Two other major areas have been the subject of consultation with the Commission in addition to reviewing permit applications—the importation of South African fur sealskins, and commercial fishing operations involving the incidental taking of marine mammals.

PART I. ACTIONS TAKEN TO ASSURE THE WELL-BEING OF MARINE MAMMALS

Economic hardship exemptions. Section 101(c) of the Act and § 216.13 of the interim regulations permitted the Secretary of Commerce to grant relief until midnight, October 20, 1973, by exempting from the moratorium those persons who could demonstrate undue economic hardship. Of the 60 applications submitted for undue economic hardship exemptions, 23 were approved—14 exemptions for the purposes of scientific research, 7 for public display, and 1 each for personal subsistence and importation of sealskins for commercial use. Of the 37 remaining applications, 21 were denied, 13 were withdrawn, and no action was taken on 3 because the applications were incomplete. Appendix F contains an analysis of the economic hardship exemption applications, including the final disposition of each application and the number of marine mammals involved.

Public display and scientific research permits. Section 101(a)(1) of the Act and § 216.31 of the regulations governing the taking and importing of marine mammals authorize the NMFS Director to issue permits to take and import mammals or marine mammal products for scientific research and public display. The criteria to be used by the Director in determining whether to issue a scientific research permit include consideration as to whether the proposed taking or importation is consistent with the policies and purposes of the Act; and whether the granting of the permit is required to further a bona fide, necessary, and/or desirable scientific purpose, taking into account the benefits to the population stock and the marine ecosystem which can be derived from the contemplated scientific research. In determining whether to issue a public display permit, the Director, shall consider—among other criteria—whether the proposed taking or importation is consistent with the policies and purposes of the Act; whether a substantial public benefit will be gained from the display contemplated, taking into account the manner of the display and the anticipated audience as well as the effect of the proposed taking or importation on the population stocks of the marine mammal in question and the marine ecosystem; and the applicant's qualifications for the proper care and maintenance of the marine mammal.

and the adequacy of his facilities. Although the Act declares a moratorium on the taking of marine mammals, the Act clearly intended that research on marine mammals be continued and that public displays (where the health and well-being of the species involved are maintained) be allowed. Permits, however, may be granted only after a review by the Marine Mammal Commission and the Committee of Scientific Advisors.

As of April 30, 1974, 92 applications for scientific research and public display permits have been submitted to the Director, including 41 for scientific research and 51 for public display. Forty-five of these applications, certified as being complete, have been forwarded to the Marine Mammal Commission for consideration. The Commission has submitted recommendations on 31 of them. Twenty applications have been approved, two denied, three referred to the appropriate States (under the provisions of section 109 of the Act), and one withdrawn. Nine applications are awaiting final determination, 13 are pending before the Marine Mammal Commission, 11 are complete and being prepared for submission to the Marine Mammal Commission, 7 are being held pending resolution of administrative policy or legal questions, and 25 applicants have not yet submitted complete applications. In addition, an inter-agency Letter of Agreement was signed to allow the Smithsonian Institution to collect and utilize certain dead marine mammals (whales, porpoise, seals, and sea lions) for scientific research. Table 1 provides a summary of the applications received and number of animals involved. Tables 2 and 3 provide a breakdown of the number of each species of marine mammal involved in the permit applications. The three applications referred to the appropriate States involved beached and stranded marine mammals. Under section 109(a)(4) of the Act and § 216.22 of the regulations, an employee of a State or local government official is permitted to take possession of beached marine mammals, and the State is permitted to place marine mammals in captivity until such time as they can be returned to their natural habitat.

Although the Act does not require public hearings as a condition to the granting of permits, the regulations provide for such hearings at the discretion of the Secretary. In determining

whether to hold a public hearing, the Secretary may consider such factors as (a) whether any interested person has requested a public hearing on such application during the time period set for public comment on the application, (b) the views of the Marine Mammal Commission on the desirability of holding a public hearing, (c) the nature of the application and the number of animals and the species involved, (d) the extent to which a public hearing would facilitate the processing of the application, and (e) applications that have unique aspects which require a major policy decision prior to making a determination on the permit application.

Public hearings were held on four public display applications and one scientific research application. In addition to the specific public display permit application under consideration, one hearing involved the general topic of permitting marine mammals to be taken for use in traveling marine mammal exhibits shown at circuses, carnivals, fairs, schools, and shopping centers. A second hearing, involving a major policy decision, was held to consider the applications of two foreign display facilities and the general topic of permitting marine mammals to be taken for display purposes outside the jurisdiction of the United States. The two other hearings involved the taking of a large number of marine mammals for the purposes of research, and the taking of four killer

whales, the latter a subject of great regional interest and controversy.

Hearings are usually held in the geographic area in which an applicant does business or the location of prominent public interest, and a transcript of the hearing is made for the official record. When hearings were necessary, notices of receipt of applications and notice of the hearing were published in the *FEDERAL REGISTER*, and public comments were solicited.

In addition to public hearings, meetings were held periodically with many interested national conservation groups, including a consortium of environmentalists and others, to explain the problems involved in implementation of the Act as well as proposed solutions. Notices on all policy determinations on permits (Appendix G) and final actions taken thereon, were published in the *FEDERAL REGISTER*. Records of the four hearings on permit applications are available for inspection at NMFS headquarters in Washington, D.C.

The regulations provide for the charging of a fee to cover the costs of the issuing of a permit. Public display permit holders are assessed a fee of \$200 and scientific research permit holders are assessed a fee of \$25.00. Such fees are waived for Federal agencies to which permits are issued. A total of \$1,100 has been collected from permit holders, which fees are deposited in miscellaneous receipts of the U.S. Treasury.

SYNOPSIS OF PERMIT APPLICATIONS (AS OF APRIL 30, 1974)

Applications received	Scientific research	Public display	Total
Number of applications submitted.....	141	51	92
Number of animals requested (total).....	19,896	519	10,415
Of these:			
To be taken and released.....	8,658	0	8,658
For captive maintenance.....	127	469	596
To be taken dead.....	126	50	176
To be killed in taking.....	965	0	965
To be killed in captivity.....	20	0	20
Action taken:			
Number of applications withdrawn.....	0	1	1
Number of applications referred to States.....	2	1	3
Number of applications handled through interagency agreement.....	1	0	1
Number of applications denied.....	2	0	2
Number of applications approved.....	10	10	20
Number of animals approved (total).....	623	83	706
Of these:			
For captive maintenance.....	94	83	177
To be taken and released.....	483	0	483
To be taken dead.....	46	0	46
To be killed in taking.....	0	0	0
To be killed in captivity.....	0	0	0

¹ Included in the application totals above are 18 applications for "research of opportunity" on dead, beached, or stranded animals, or other research projects in which no numbers of animals are specified. The total number of animals requested, therefore, does not include the animals that would be taken under these applications.

TABLE 2.—Number of cetaceans requested under permit applications (as of April 30, 1974)

Common name	Scientific name	Requested					Granted			
		Taken and kept alive	Taken and released	Taken dead	Total	MMC ¹	Taken and kept alive	Taken and released	Taken dead	Total
Gray whale	<i>Eschrichtius robustus</i>		5	1	6	6		5		5
Minke whale	<i>Balaenoptera acutorostrata</i>			3	3	3				3
Rough-toothed dolphin	<i>Steno bredanensis</i>	7			7	7				7
Atlantic bottlenosed dolphin	<i>Tursiops truncatus</i>	147	26		173	57	46			46
Pacific bottlenosed dolphin	<i>Tursiops gilli</i>	23		3	25	11	8			8
Risso's dolphin	<i>Grampus griseus</i>	2			2	2				2
Pacific white-sided dolphin	<i>Lagenorhynchus obliquidens</i>	16	175	3	194	104		97		97
Dusky dolphin	<i>Lagenorhynchus obscurus</i>		11		11	11		11		11
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	4			4	4				4
Spinner dolphin	<i>Stenella longirostris</i>	17			17	17	11			11
Spotted dolphin	<i>Stenella attenuata</i>			3	3	3				3
Common dolphin	<i>Delphinus delphis</i>	3	110	3	116	116	3	110		113
Northern right-whale dolphin	<i>Lissodelphis borealis</i>	2		3	5	3				3
Pygmy killer whale	<i>Feresa attenuata</i>	4			4	4				4
False killer whale	<i>Pseudorca crassidens</i>	5			5	3	3			3
Pilot whale	<i>Globicephala macrorhynchos</i>	16	20	3	39	29	5	20		25
Killer whale	<i>Orcinus orca</i>	6		3	9	7				7
Harbor porpoise	<i>Phocoena phocoena</i>			3	3	3				3
Dall's porpoise	<i>Phocoenoides dalli</i>			3	3	3				3
Belukha (beluga) whale	<i>Delphinapterus leucas</i>			15	15					15
Pygmy sperm whale	<i>Kogia breviceps</i>			3	3	3				3
Arch-beaked whale	<i>Mesoplodon carlhubbsi</i>			3	3	3				3
Goose-beaked whale	<i>Ziphius cavirostris</i>	2			2	2				2
Total		253	347	52	652	401	83	243		326

¹ These figures indicate the number of each species requested in applications which have been forwarded to the Marine Mammal Commission.

TABLE 3.—Number of pinnipeds requested under permit applications (as of April 30, 1974)

Common name	Scientific name	Requested					Granted			
		Taken and kept alive	Taken and released	Taken dead	Total	MMC ¹	Taken and kept alive	Taken and released	Taken dead	Total
South American sea lion	<i>Otaria flaccidissima</i>	5			5	5	5			5
California sea lion	<i>Zalophus californianus</i>	231	30	83	344	132	57			57
Steller sea lion	<i>Eumetopias jubatus</i>		3,000	163	3,163	3				3
Northern fur seal	<i>Callorhinus ursinus</i>			3	3	3				3
Pacific harbor seal	<i>Phoca vitulina richardsi</i>	59	690	496	1,245	236	7	20		27
Ice-breeding harbor seal	<i>Phoca vitulina largha</i>		300	30	330					330
Atlantic harbor seal	<i>Phoca vitulina vitulina</i>	1			1	1				1
Northwest Atlantic harbor seal	<i>Phoca vitulina concolor</i>	25	25		50	13	1			14
Ringed seal	<i>Pusa hispida</i>			96	96	25			25	25
Gray seal	<i>Halichoerus grypus</i>	28			28	24	22			22
Ribbon seal	<i>Histiophoca fasciata</i>			40	40					40
Bearded seal	<i>Erignathus barbatus</i>			50	50	10			10	10
Hawaiian monk seal	<i>Monachus schauinslandi</i>	2			2	1				1
Crab-eater seal	<i>Lobodon carcinophagus</i>		300	30	330	330				330
Ross seal	<i>Ommatophoca rossi</i>		100	9	109	109				109
Leopard seal	<i>Hydrurga leptonyx</i>	2	100	26	128	128	2			130
Weddell seal	<i>Leptonychotes weddellii</i>		3,590	50	3,640	3,640	220			220
Northern elephant seal	<i>Mitrounga angustirostris</i>	10		1	11	11				11
Southern fur seal	<i>Arctocephalus australis</i>		100	8	108	108				108
Southern elephant seal	<i>Mitrounga leonina</i>		100	8	108	108				108
Total		363	8,311	1,089	9,763	4,893	94	240	46	380

¹ These figures indicate the number of each species requested in applications which have been forwarded to the Marine Mammal Commission.

Applications for waiver of the moratorium. Section 101(c) of the Act provides, during the first year following enactment, for the granting of an undue economic hardship exemption from the importation restrictions imposed by the Act. The Fouke Company, Greenville, South Carolina, applied for permission to import 70,000 raw sealskins, and received a letter of exemption on the basis of undue economic hardship. The exemption allowed the importation of up to 50,500 raw skins from the southern fur seal from South Africa. The proposed action was the subject of an environmental impact statement. The granting of the permit was challenged in a court action to obtain a restraining order to preclude importation. The court denied the plaintiff's request for a temporary restraining order and 42,075 skins were imported. Due to transportation prob-

lems and the October 21, 1973, expiration date of the exemption, the remaining 8,425 skins could not be imported.

An application for waiver of the moratorium to allow the continued importation of sealskins from South Africa by the Fouke Company is under consideration. A DEIS was issued on April 18, 1974. A representative of the NMFS visited South Africa in September 1973 followed by a two-man team in March 1974 to review the program to determine whether it is adequate to meet the purposes and intent of the Act. A third visit will be made in July 1974 to review harvesting procedures.

Under the provisions of section 109 (a) (2) of the Act, and § 216.4(b) of the regulations promulgated thereunder, any State may adopt laws or regulations relating to the taking or protection of any species or population stock of marine

mammals if the Secretary determines, after review by law, that such laws or regulations will be consistent with the provisions of the Act and the regulations. For a State to adopt laws or regulations relating to the management of marine mammals, the Secretary must waive the application of Section 101 of the Act (i.e., the moratorium provision).

The State of Alaska has applied to the Secretary to have the marine mammal regulations of the Alaska Department of Fish and Game declared consistent with the Act and regulations and to allow the State to resume management of sea lions, phocid (hair) seals, and belukha whales. A similar request has been made of the Secretary of the Interior with respect to management of walrus, sea otter, and polar bear. The NMFS and the Bureau of Sport Fisheries and Wildlife (Interior) have formed

a joint working group to review the State regulations and prepare a working paper leading to a DEIS. The DEIS will discuss the impact on the environment of all takings of marine mammals from waters off Alaska, the alternative approaches to management of these mammals, and the short-term versus long-term use and productivity of the environment (waters off Alaska).

Although representatives of Washington, Oregon, and California have discussed possible return of management of certain marine mammals to their respective jurisdictions, no formal requests for waivers have been received from States other than Alaska.

Research programs—Tuna/porpoise research and development. The marine mammal program at the NMFS Southwest Fisheries Center (SWFC) is concerned with oceanic porpoise populations and their relation to the tuna fishery. The major objectives of the program are to carry out NMFS responsibilities in response to the Marine Mammal Protection Act of 1972, especially in respect to sections 101(a)(2), 103(b), (d) and 111, and to contribute to the long-term maintenance of the tuna fishing industry through conservation of the sea's natural resources.

Program design has been guided by the general philosophy, priorities, and organizational structure outlined in the "Report of the NOAA Tuna-Porpoise Review Committee" of September 1972. Accordingly, the first task is to reduce the porpoise mortality and serious injury rate that is incidental to tuna purse seining as rapidly as possible, the secondary goals are (1) to generate baseline biological data on porpoise populations in the eastern tropical Pacific, and (2) to establish the status of these populations. The two major components of the NMFS program are gear dynamics and development, and biology and stock assessment. (The Committee of Scientific Advisors has been requested to prepare a detailed estimate of the numbers of mammals killed or seriously injured under existing commercial fishing technology.)

All facets of the research program have been developed in close cooperation with other involved groups such as the tuna industry and the Departmental Porpoise Review Committee. As noted above, the first planning for research organization was based on findings of the Tuna-Porpoise Review Committee, composed of a cross-section of persons from industry, government, and universities. The gear dynamics and development program, although managed from the Southwest Fisheries Center at La Jolla, California, is essentially based on the input and expertise of specialists from the Northwest Fisheries Center (NWFC) at Seattle, Washington. Contracts have been let to experts at the University of California at Santa Cruz and San Diego, and the Naval Undersea Center, San Diego, to conduct behavioral and acoustical studies to determine the feasibility of aerial assessment. Workshops at quarterly or more frequent intervals have been held at the SWFC with industry,

state, and university participants for the purpose of reviewing the existing program and for eliciting opinions concerning the proposed programs.

Analysis of historical data indicates that a high incidence of porpoise mortality occurred during a small percentage of hauls, most generally at times when the cork lines of a purse seine have come together and the net has "collapsed." The gear dynamics and development program is investigating other gear malfunctions such as net roll-up equipment failures that result in time delays, and unfavorable environmental conditions.

Short-time remedies must require minimum modification to take advantage of existing equipment and limited training when they are used. Suggested solutions are the use of anti-torque cable as a purse line to reduce net roll-ups; use of speed boats as tugs to hold nets open at the time of incipient collapse; and current indicators and related devices to aid in the most advantageous placement of nets relative to wind and current.

The techniques discussed were developed on two experimental cruises in Pacific waters. Preliminary results of recent testing and evaluation on the fishing grounds are highly encouraging.

Extensive porpoise kills can occur when large numbers of tunas and porpoise are captured and crowded together in the net. To alleviate this condition, a modified tuna purse seine has been designed and built. This net is approximately the same length as the seines now in use, but lighter webbing tapered to a greater depth is used to provide an increased area which can safely contain large catches of fish and porpoises. A porpoise safety panel with smaller-than-normal mesh, (1½-inch stretch mesh) is provided in the backdown area of the net. In the "backdown" procedure, maneuvering of the vessel causes the section at the back of the pursed net to dip beneath the surface of the water, allowing porpoises to escape. Tests of the new net on the fishing grounds resulted in a very low porpoise kill recorded in 24 successful sets in which 500 tons of tuna were caught.

At a series of workshops sponsored by the American Tuna Boat Association in San Diego, industry representatives and fishermen have participated in discussions and consultations about the gear program, and have collaborated in conducting fishing tests and evaluations of corrective techniques. Reduction in kill rates of porpoises achieved to date are due largely to innovations developed by the fishermen and to their increased efforts to "backdown" and rescue all possible animals. NMFS gear research has, however, progressed to the point where methods and techniques considered to hold high potential such as those described above, can contribute to further reductions in porpoise mortality.

For descriptive purposes the biology and stock assessment program that the Fisheries Service is pursuing can be divided into four functionally related parts encompassing observers, basic biology,

stock assessment and population dynamics, and assessment surveys.

The observer program so far has provided most of the vital information on porpoise-tuna interactions. Under the provisions of the Marine Mammal Act of 1972, NMFS observers who go to sea aboard U.S. tuna purse seiners count porpoises killed during the fishing operations and record data relative to these mortalities, make detailed observations of the rescue operations during each tuna set, collect specimens and samples to be used for life history studies and stock assessment, and make other observations on cetaceans and birds. A statistical evaluation indicated that 25 to 38 trips would be necessary during 1974 to obtain valid information. Previously, observer trips had been negotiated on an individual basis. For the 1974 season, however, the fleet was stratified into five size-age classes and the numbers of trips in each class apportioned on the basis of their past relative importance in the fishery. Twenty-two observer trips were made during the 1973 fishing season.

Boats to carry the observers were selected by means of a random drawing. Industry cooperation in placing observers on these specific boats has been excellent, and apparently will provide data on approximately 1,000 sets on porpoises, representing about 15 to 20 percent of all such sets made by U.S. purse seiners operating in 1974 in the Inter-American Tropical Tuna Commission Yellowfin Regulatory Area of the eastern Pacific.

The observer trips yield relatively precise information on the numbers of porpoises killed in making these sets.

The trend of all indices of fleet performance (kill per set, kill per ton of yellowfin tuna, percentage kill of porpoises captured in the net, and the proportion of sets that resulted in high kill) continues downward, indicating improvement. The significance of this trend is presently being assessed.

Basic biological work is essentially a continuation of existing studies of taxonomy, geographic distribution, growth, reproductive rates, and the major causes of natural mortality among delphinid species of the eastern tropical Pacific. The essential data are obtained from specimens and samples resulting from commercial tuna fishing and constitute the greatest mass of information that has yet been gathered on oceanic porpoises. Results of the work will contribute to population dynamics models. When work on the species of primary importance, the spotted porpoise (*Stenella attenuata*), is near completion, emphasis will shift to the spinner porpoise (*Stenella longirostris*). Several scientific manuscripts have recently been finished that treat such subjects as gestation period and fetal growth, age determination, length-weight relationships, geographical variation, a comparative study of stomach contents of porpoises and tunas, and the ecological relationships among birds, porpoises, and tuna. Further data inputs have been provided by the aerial and ship surveys conducted in early 1974. Porpoise stock

assessment studies are designed to reveal: Current status of spotted porpoise stocks; projections of these stocks under present procedures used in the tuna fishery; and projections of the stocks under alternative management strategies and proposed changes in gear technology. Additional studies will extend these considerations to the spinner porpoise and the white-belly porpoise.

Heretofore most of the data on the density and distribution of eastern tropical Pacific porpoises has been obtained in conjunction with commercial fishing. Because the data thus obtained tends to be limited to areas of high porpoise density, it is essential that surveys also be made from platforms that traverse predetermined ocean tracks across the Commission Yellowfin Regulatory Area. A feasibility study completed under contract to the University of California (San Diego) indicated that while a high-altitude, long-range, aerial photo-reconnaissance may have been possible, the costs would have been far beyond program resources. Instead, a combined ship-aerial assessment survey was conducted in January-February 1974. A twin-engined, amphibious aircraft carrying four NMFS observers flew at low altitudes over section of the tuna fishing area seaward to about 500 miles while a research ship with three NMFS observers aboard used tuna scouting techniques to cover sections more distant from land.

The results of these surveys are now being analyzed to produce density estimations of porpoise stocks in conjunction with observations made routinely by the porpoise observers aboard the fishing vessels. Other indices such as quantifiable evidence of changes in porpoise behavior and catch per unit of effort are being examined.

In summary, the major products of the porpoise research program through 1974 will include the following:

1. Fishing methods and gear that can reduce the incidental porpoise mortality in the U.S. tuna purse seine fishery and are exportable to foreign fleets.
2. Estimates by species of the distribution, densities, and subdivisions of the porpoise populations vulnerable to the tuna fishery in the eastern tropical Pacific.
3. An assessment, by species, of the impact of projected mortality levels on the porpoise stocks.
4. Final estimates, by species, of the numbers of porpoises killed in 1970, 1971, 1972, and 1973.
5. Preliminary estimates, by species, of the numbers of porpoises killed in 1974.

Coordinated Pribilof Island-Bering Sea research. The research control area study on St. George Island (Pribilof Islands, Alaska) is designed to investigate the relationship between survival and abundance and to further investigate the parameters determining present population levels of the northern fur seals on the Pribilof Islands. The study was deemed necessary when management procedures, initiated in 1956, did not produce an anticipated increase in harvestable 3-4 year old male fur seals. All commercial sealing was halted on St.

George in 1973, and the island seal population was set aside to serve as a "natural" unharvested population (control area) to compare with the population of St. Paul Island, which is harvested annually.

Under a general research plan, the St. George study is estimated to require a minimum of at least 10 years. During the first few years, the major research effort will be directed toward testing field methods and acquiring baseline data on the fur seal populations and their interactions with other marine resources. In subsequent years the herds will be monitored to determine density-dependent changes in the population and to investigate the effects of management through comparison with the harvested populations on St. Paul Island.

In later stages, the study will involve intensive investigation of the long-term effects of no commercial harvest on the St. George population. Supportive studies will be made of fisheries in the Bering Sea, and fur seal metabolism, physiology, and disease as those factors affect survival rates.

The program consists of coordinated land and pelagic studies. Land research activities concentrate primarily on comparative studies of the unharvested and harvested populations and include documentation of population abundance and composition, changes in growth and reproductive rates, behavior, density-dependent behavioral modifications, changes in sex ratio, and determination of factors affecting survival rates.

Pelagic studies include identification of major offshore feeding areas and prey species as well as investigations of the feeding behavior of lactating females at sea by means of radio or sonic tags, and analysis of food chain dynamics. The same females will also be observed on land.

Accomplishments. (June 22, 1973, through April 30, 1974). To date, 675 fur seals have been collected within a 20- to 100-mile radius of the Pribilof Islands. The purpose of this collection was to locate major feeding areas, determine food species, and increase the information base for determining age-specific pregnancy and ovulation rates.

Major food species were determined to be walleye pollock, squid, deep-sea smelt, and Greenland turbot.

Preliminary behavioral observations and baseline counts were made from an observation tower constructed on St. George Island and from observation blinds during the first season of the harvest ban on the island. The 1973 pup population was estimated at approximately 60,500, and 5,000 pups were marked.

Initial studies were conducted on holding fur seals in temporary captivity for studies on reproductive rates. Captive animals were observed to breed in captivity.

Five hundred females were marked for further behavioral observations. Aerial photographic records were made for definition of rookery areas. Japanese and

Canadian scientists accepted invitations to collaborate in radio-telemetry and pelagic studies.

Law enforcement. The NMFS Marine Mammal enforcement activities have been strengthened by the recruitment of additional enforcement personnel in the Washington and regional office. This increase in personnel has enabled the NMFS to make a more adequate and timely response to such problems as reports of alleged violations, inspection of importations of marine mammals and marine mammal products, and monitoring capture activities by permit holders. Approximately one-fourth of the time spent by the NMFS in enforcement and surveillance activities is directly related to marine mammals.

During fiscal year 1974, the NMFS entered into cooperative enforcement agreements with 10 States along the Pacific, Atlantic, and Gulf coasts. Cooperative enforcement agreements with Alaska, Washington, Oregon, California, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana now afford enforcement services which assist and complement NMFS efforts at a total monthly cost of approximately \$37,000. The determination of contract expense depends primarily upon the degree of State effort employed in supplementing NMFS enforcement capability to a level deemed sufficient for purposes of the Act.

Essentially, these cooperative agreements provide for enforcement of provisions of the Act by designated State officers, utilizing State equipment, and working within State jurisdiction. Acting as Federal law enforcement agents under provisions of the agreements, State Officers are charged with enforcement of (a) the moratorium on the taking of marine mammals; (b) the prohibition against the possession, transportation, sale, or the offering for sale of illegally taken marine mammals or marine mammal products; and (c) the terms and conditions of letters of exemption or permits issued by the NMFS Director.

In addition to the direct enforcement activities required of the states, the agreements require State Officers to notify NMFS enforcement agents or agents of other Federal agencies of the disposition of beached or stranded marine mammals. During an 8-month period in 1973, 833 separate incidents were reported, including beachings, strandings, reports of suspected violations, monitoring of holding facilities, and other activities requiring official action by a State under terms of enforcement agreements.

Reporting procedures have been developed and implemented which provide the information necessary for review and assessment by NMFS of State performance under terms of the agreements as provided by the Act. These evaluations are used to determine potential problem areas, effectiveness of programs, and future objectives of NMFS-State cooperative enforcement programs.

Some specific examples of enforcement actions carried out by State and NMFS enforcement personnel include:

Investigations of numerous complaints alleging violations of the Marine Mammal Protection Act resulted in the referral of 21 cases for administrative or judicial action within the period covered by this report.

Three cases involving the possession of sealskins contrary to Act provisions, and another concerning the taking and possession of a Minke whale skeleton were completed in the Northeast Region.

The ownership of six porpoises seized by NMFS enforcement agents in the Southeast Region, was transferred to the Service as a result of administrative action in four cases. The disposition of one other civil action and one criminal charge are pending.

In the Southwest Region, two cases were initiated under Marine Mammal Act provisions; in the Northwest Region, three cases involving the taking and possession of harbor seals and one concerning the possession of a sea lion hide were successfully concluded.

Five cases, three concerning the harassment of marine mammals by commercial fishermen, and two concerning the taking and possession of harbor seals in violation of Act provisions, were completed by administrative action in the Alaska Region.

The NMFS held individual and informal meetings with several State agencies regarding enforcement of the Act. Such meetings were held throughout the year as the need occurred. Other town-hall type meetings were held with the fishing industry and the local citizenry. Information on the Act, including how it would affect the industry, was presented.

A cooperative agreement between NMFS and Bureau of Sport Fisheries pertaining to enforcement of the Act has been proposed and it is presently awaiting acceptance by BSF&W. The agreement will provide an exchange of authority, allowing one agency to enforce the law and regulations that are the responsibility of the other.

A verbal agreement reached with the U.S. Customs Service last year continues in effect. This agreement provides for Customs personnel to make the initial interception of contraband products. Once so identified, the Customs Service alerts NMFS, which follows through and initiates proceedings against any person or item identified as in violation. Items held up by Customs and subsequently found to be lawful imports are passed for importation.

Inquiries have been made of the Department of Agriculture to identify areas of mutual concern relative to management and enforcement of the Act. Further negotiations will deal with cooperative arrangements concerning captive animals, their condition, and the suitability of their confinement conditions.

International program. As required in section 108(a) (6) of the Act, a separate report (39 FR 12051) was presented to Congress by the Secretary of Commerce detailing the implementation of the international program under the Act from October 21, 1972, to October 19, 1973.

At the Annual Meeting of the Inter-American Tropical Tuna Commission (IATTC) in Washington, D.C., November 12-16, 1973, the U.S. Delegation distributed copies of the proposed interim regulations for U.S. tuna fishermen

designed to reduce the incidental take of marine mammals. The main points in the regulations, including the embargo provisions, were outlined. Also, the Director of Investigations of the IATTC informed the member nations that the United States has formally requested him, by letter, to make recommendations to all Commission members regarding the use of fishing methods and gear which the available research indicates is effective in reducing incidental marine mammal mortality and serious injury rate. When the regulations come into effect, foreign nations must certify that species of fish being imported have been taken with fishing technology which does not result in serious injury or death to marine mammals in excess of U.S. standards.

The NMFS marine mammal expert who visited South Africa in September 1973 to observe the harvest of Cape fur seals reported that the major sites for harvesting of South African fur seals are in South West Africa (Namibia). Discussions with the Department of State have resulted in the conclusion that a bilateral international agreement on the conservation of South African fur seals is, therefore, not possible. The Department of State advised that any agreement with South Africa relating to fur seals would be in violation of the U.N. Security Council Resolution 301 which "... calls upon all States ... to abstain from entering into treaty relations with South Africa in all cases in which the Government of South Africa purports to act on behalf of or concerning Namibia."

A meeting was held with Soviet marine mammal scientists in Washington, D.C., in December 1973, to discuss coordination of marine mammal research efforts by United States and Soviet Scientists. Tentative agreements reached were that (1) scientific data and statistics would be exchanged, (2) scientists studying certain species of marine mammals would visit their counterparts in the other nation, and (3) U.S. scientists would participate in a Soviet whale tagging and research cruise in the Pacific in the fall of 1974. Species particularly mentioned for exchange of data and program coordination are gray and bowhead whales, various species of ice seals, belukha (beluga) whales and northern sea lions.

NOAA-NMFS is cooperating with the National Science Foundation in preparation of an Environmental Impact Statement for the Convention on the Conservation of Antarctic Seals. Once the procedures connected with this Statement have been completed, and if the Convention is found acceptable, the Convention will be sent to the U.S. Senate for ratification. A recent survey of the nations that participated in the negotiating conference shows that all twelve have signed the Convention, South Africa and Norway have ratified it, and four others, including the United States, have plans for ratification by the end of this year.

Continuing international efforts to im-

prove the scientific information base included a four-nation joint cruise for marking and sighting of large whales in the Indian Ocean. Results of the research are not yet available, but a total of 472 large whales, including Minke, and 109 smaller cetaceans were sighted. A total of 167 large whales, mostly sperm, were marked. Diving and respiratory behavior also were studied.

The Sub-Committee on Small Cetaceans of the Scientific Committee of the International Whaling Commission (IWC) met in Montreal, Canada, April 1-12, 1974. Several U.S. marine mammalogists participated in this meeting and presented papers. The Canadian Government convened the meeting and will publish, with support from other countries, more than 40 scientific papers given at the meeting. The papers will be made available to the Scientific Committee of the IWC in June 1974.

Scientific activities of the Food and Agriculture Organization (FAO) in regard to marine mammals are progressing. The first meeting of the large whale group of the FAO Advisory Committee on Marine Resources Research (ACMR) Working Party on Marine Mammals will be held in Morges, Switzerland, during the second week of May 1974. The report of this independent group will be available to the IWC Scientific Committee.

PART II. CURRENT STATUS OF THE STOCKS OF MARINE MAMMALS

Introduction. Of the approximately 104 species of marine mammals throughout the world, status reports have been prepared for 66 species which are of primary concern to the United States and are the responsibility of the Secretary of Commerce under the terms of the Marine Mammal Protection Act. The Act requires a report not only on the status of each marine mammal species, but also on the population stocks. The population stocks of only a few marine mammals have been delineated and the effort needed to obtain information on most population stocks is beyond the scope of research being carried out at the present time.

Information about each species is summarized under six major headings. They are distribution and migration, abundance and trends, general biology, ecological problems, allocation problems, and current research. Selected references are listed at the end of each species discussion. Summary information on existing protective regulations for marine mammals is also included.

References are not cited in the report except for the paragraph on abundance and trends. Because of the importance of data on abundance and trends, information in this section is cited and citations are given in the list of references. Data on the abundance of marine mammals are difficult and costly to obtain. With the exception of a few species which have been commercially exploited, such as large whales and fur seals in the North Pacific Ocean, abundance data are usually inadequate for management purposes.

A list of scientists who have assisted either by providing information or reviewing the status reports is included in the report. Revised status reports were prepared for those species for which new information has become available since the July 1973 report to Congress. Such revised reports are indicated within the species list by an asterisk. (*)

SPECIES LIST

Pinnipedia

- **Zalophus californianus* (California sea lion).
 - **Eumetopias jubatus* (northern sea lion).
 - Arctocephalus australis* (South American fur seal).
 - **Arctocephalus pusillus* (South African fur seal).
 - Arctocephalus townsendi* (Guadalupe fur seal).
 - **Callorhinus ursinus* (northern fur seal).
 - **Phoca vitulina* (harbor seal).
 - **Pusa hispida* (ringed seal).
 - Halichoerus grypus* (gray seal).
 - Histriophoca fasciata* (ribbon seal).
 - **Pagophilus groenlandicus* (harp seal).
 - Erignathus barbatus* (bearded seal).
 - Monachus tropicalis* (Caribbean monk seal).
 - Monachus schauinslandi* (Hawaiian monk seal).
 - Lobodon carcinophagus* (crabeater seal).
 - **Ommatophoca rossi* (Ross seal).
 - Hydrurga leptonyx* (leopard seal).
 - Leptonychotes weddellii* (Weddell seal).
 - **Cystophora cristata* (hooded seal).
 - Mirounga leonina* (southern elephant seal).
 - **Mirounga angustirostris* (northern elephant seal).
- Mysticeti
- Balaena glacialis* (black right whale).
 - **Balaena mysticetus* (bowhead whale).
 - Eschrichtius robustus* (gray whale).
 - **Balaenoptera acutorostrata* (minke whale).
 - Balaenoptera edeni* (Bryde's whale).
 - **Balaenoptera borealis* (sei whale).
 - Balaenoptera musculus* (blue whale).
 - **Balaenoptera physalus* (fin whale).
 - Megaptera novaeangliae* (humpback whale).
- Odontoceti
- Steno bredanensis* (rough-toothed dolphin).
 - **Tursiops truncatus* (bottlenosed dolphin).
 - Grampus griseus* (Risso's dolphin).
 - Lagenorhynchus albigrostris* (white-beaked dolphin).
 - Lagenorhynchus acutus* (Atlantic white-sided dolphin).
 - Lagenorhynchus obliquidens* (Pacific white-sided dolphin).
 - Lagenodelphis hosei* (Sarawak dolphin).
 - Stenella attenuata*, *frontalis*, *graffmani*, and *dubia* (spotted dolphin).
 - Stenella plagiodon* (Atlantic spotted dolphin).
 - Stenella longirostris* (spinner dolphin).
 - Stenella coeruleoalba* (striped dolphin).
 - Delphinus delphis* (common dolphin).
 - **Lissodelphis borealis* (northern right whale dolphin).
 - Peponocephala electra* (broad-beaked dolphin).
 - Feresa attenuata* (pygmy killer whale).
 - Pseudorca crassidens* (false killer whale).
 - Globicephala melaena* (common pilot whale).
 - **Globicephala macrorhyncha* (short-finned pilot whale).
 - **Orcinus orca* (killer whale).
 - Phocoena sinuata* and *Phocoena phocoena* (harbor porpoise).
 - Phocoenoides dalli* (Dall porpoise).

- **Delphinapterus leucas* (beluga) (belukha).
- Monodon monoceros* (narwhal).
- **Physeter catodon* (sperm whale).
- **Kogia breviceps* (pygmy sperm whale).
- **Kogia simus* (dwarf sperm whale).
- Mesoplodon bidens* (North sea beaked whale).
- Mesoplodon europaeus* (Antillean beaked whale).
- Mesoplodon mirus* (True's beaked whale).
- Mesoplodon stejnegeri* (Bering Sea beaked whale).
- Mesoplodon carlhubbsi* (Arch-beaked whale).
- Mesoplodon ginkgodens* (Ginkgo-toothed whale).
- Mesoplodon densirostris* (dense-beaked whale).
- Ziphius cavirostris* (goose-beaked whale).
- Berardius bairdi* (giant bottlenose whale).
- Hyperoodon ampullatus* (North Atlantic bottle-nose whale).

CALIFORNIA SEA LION

(*Zalophus californianus californianus*)

Distribution and migration. This subspecies of the California sea lion ranges along the west coast of Mexico from about lat. 21° N to southern British Columbia, Canada. The California sea lion breeds on some Gulf of California islands northward to San Miguel Island, California, in lat. 34° N. Many adult and subadult males move northward along the California, Oregon, Washington, and British Columbia coasts after the breeding season. Feral animals in the southeastern U.S. (including the Gulf of Mexico) which have escaped from captivity are reported, but there is yet no evidence for breeding (Caldwell, D.K., pers. comm., 1974).

Another subspecies occurs on the Galapagos Islands, and still another, formerly found in Japanese waters, is now extinct.

Abundance and trends. The California Department of Fish and Game censuses indicate that the California sea lion population reached a low level in the early 1930's in California waters, then made a steady recovery and apparently leveled off about 1961 with little variation in the counts since then (Ripley, Cox, and Baxter, 1962; Carlisle and Aplin, 1971). Rice, Kenyon, and Lluch (1965) counted 16,150 California sea lions on Guadalupe, San Benito, and Cedros Islands, Mexico, in January and February 1965. Orr, Schonewald, and Kenyon (1970) counted this species in the Gulf of California between 1960 and 1968, and in April 1966 made what is the most accurate total counts (5,411) obtained on six islands in these waters. Odell (1971) obtained minimum counts of 34,382 California sea lions on all Channel Islands in June 1964. Carlisle and Aplin (1966) obtained a total count in California of 22,000 animals in 1965, using aerial photography. In United States waters, Peterson and LeBoeuf (1969) estimated that 40,000 animals were ashore on San Nicolas and San Miguel Islands during the 1967 and 1968 breeding seasons. The preceding figures indicate a total population of about 60,000, with near 20,000

* Status of Stocks revised as of April 30, 1974.

animals in Mexico and 40,000 in the United States.

Mate (pers. comm.) states that the California sea lion population in Oregon numbered about 2,500 in 1968, 1969, and 1970. As many as 1,000 animals migrated through Oregon to the north during these years.

In 1972, Bigg (1973) counted 430 California sea lions in Barkley Sound off Vancouver Island on 25 February. At the same time, 35 on Race Rocks off Victoria, B.C., and 10 in Dodds Narrows (lat. 49° 07' N.) near Nanaimo, B.C., were counted.

Before passage of the Marine Mammal Protection Act by the U.S. Congress, California sea lions were taken by permit each year for sale to zoos, oceanaria and circuses. Daugherty (1972) states that 400 of these animals were taken in 1969 and 580 in 1970.

General Biology. The adult male grows to 2.1 m and 273 kg; the adult female to 1.8 m and 91 kg. Most of the pups are born in June and are about 0.8 m long and 5.4 to 6.4 kg in weight. The females usually breed 15 to 30 days after parturition and the mother and pup may remain together the first year. The males establish and defend breeding territories on land; the females move about freely. On San Nicolas Island, the pupping season begins about 15 May and lasts about 5 weeks, with the peak during the first week in June.

During the past two or three years an increase in premature births and in the mortality rate of subadults and young adults apparently has occurred. Three potential causes have been isolated: (1) Chemical residues (polychlorinated biphenyls, DDT and metabolites); (2) a bacterium (*Leptospira*); and (3) a virus.

The greatest single cause of death in wild and captive animals is lungworm. Animals in captivity have also died from pleuropneumonia, pneumonia, and enteric infections, diseases which may also occur in wild populations.

Ecological problems. California sea lions because of industrial and land development and possible harassment have practically abandoned certain hauling grounds and rookeries. Although most major populations are now located on sites not easily reached by the public, a few areas such as Monterey Bay breakwater in Monterey, California, are used extensively as hauling grounds by California sea lions and are visited frequently by tour boats.

Allocation problems. A history of conflict exists between people for and against complete protection of this species. Some fishermen want the number of California sea lions to be controlled. California sea lions are probably the most widely sought-after species of eared seals in the world for public display. Some conservation groups would like complete protection for the California sea lion.

Current research. The following organizations are conducting research on the California sea lion: Biological Sonar Laboratory, Fremont, California; University of California, Santa Cruz, California; University of California, Berkeley, California; California Academy of Science,

San Francisco, California; Humboldt State College, Arcata, California; and Fisheries Research Board of Canada, Nanaimo. The National Marine Fisheries Service conducts research on this species incidental to a fur seal project on San Miguel Island off California.

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- NORTHERN (STELLER) SEA LION
(*Eumetopias jubatus*)
- Distribution and migration. The northern sea lion is found in continental shelf water from the Sea of Japan and northern Honshu, Japan, northward around the North Pacific Ocean rim to the Okhotsk and Bering Seas and southward to the California Channel Islands. Some seasonal movements occur in parts of its range. Examples of such movements are differences in the winter and summer distribution of these animals in the Bering Sea, and the post-breeding movements in central California.
- Abundance and trends. Kenyon and Rice (1961) estimated the world population at between 240,000 and 300,000 in 1961. No published estimates of the total population have been made since that time. Alaska has 202 known rookeries and hauling grounds. The Alaskan population has increased considerably since the early 1900's and now exceeds 200,000 and may be near maximum levels in many areas (Alaska Department of Fish and Game, 1973). Since 1964, several thousand pups have been harvested annually in Alaska until 1973 when the Marine Mammal Protection Act became effective; 6,546 were taken in 1972.
- Kenyon and Scheffer (1962) made six aerial and one surface survey along the Washington coast between 1949 and 1959 and stated that the population did not exceed 500. Pearson and Verts (1970) estimated the Oregon population at 1,078. The California Department of Fish and Game makes periodic aerial censuses of sea lions in California. Carlisle and Aplin (1971) have given the following figures for sea lions in California north of Pt. Conception: (1958) 7,053; (1961) 6,675; (1965) 4,998; (1969) 7,156; and (1970) 5,189. They consider these to be northern sea lions, although small numbers of California sea lions are known to occur north of Pt. Conception at the time the census is made.
- The northern sea lion ranges to the Channel Islands group south of Pt. Conception. In the Channel Islands, the population peaked at about 2,000 in the late 1930's and has declined since (Bartholomew, 1967). In 1972, the San Miguel Island population was estimated by De Long (pers. comm.) at 30 to 35 plus a few pups.
- General Biology. The adult males grow to 3.0 m in length and over 900 kg in weight. The adult females reach 2.0 m and almost 300 kg. Newborn pups weigh 16 to 23 kg. The pup sheds its dark chocolate birthcoat for the tan adult pelage in the autumn of birth. Males may mature sexually by age 5 years, but hold breeding territories first at age 7 or 8. Females can first produce young at age 5 or 6, and breed 10-14 days after parturition. Some pups remain with their mothers the first year. The adult male maintains a territory 40 to 60 days, and the female is aggressive towards other females for several days after her pup is born. Northern sea lions favor isolated locations with some shelter, free access to the sea, and freedom from human harassment. Colonies may become established on rock outcrops, boulder, cobblestone, and coarse sand beaches. The northern sea lion feeds on a variety of fish and cephalopods.
- Ecological problems. Northern sea lions in some areas may compete with other pinnipeds for rookery and hauling ground space. Excessive disturbance by humans of sea lions on their rookeries and hauling grounds has caused the animals to abandon these areas.
- Allocation problems. Northern sea lions have damaged gear and destroyed fish in the halibut longline, salmon purse seine, gillnet, and troll fisheries. In recent months, the Alaska Department of Fish and Game has received increasing numbers of gear damage complaints from fishermen with respect to the northern sea lion (J. Vania, pers. comm., 1974). The species has also destroyed herring in herring pots and has been accused of biting and sinking inflated plastic buoys used to mark crab pots. This species has considerable esthetic and recreational value.
- Current research. This species has its center of abundance in Alaska where the Alaska Department of Fish and Game's management and research investigations have been directed primarily at determining abundance and distribution, and the effects of harvesting operations on rookery populations. The University of California, Santa Cruz, is also conducting research on the species off California.
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SOUTH AMERICAN FUR SEAL

(*Arctocephalus australis*)

Distribution and migration. Two major populations of the South American fur seal, identifiable only by size, are found, one on the Falkland Islands (Islas Malvinas) and the other on coastal Uruguayan Islands. Minor populations of this species occur in Argentina, Chile, and Peru. The adults are on the Uruguayan breeding grounds in November and December, and offshore up to 200 miles east on the edge of the continental platform during the austral winter. An extreme northern record for the South American fur seal was of one identified at Rio de Janeiro, Brazil.

Abundance and trends. In 1972, the Uruguayan population was estimated at 252,000. This population grew from an estimated 129,000 in 1960 to an estimated 174,000 in 1965. Other populations are also increasing. Information on abundance and trends was furnished by Isaias Ximénez, Uruguayan Government biologist.

General biology. Adult males on the Falkland Islands grow to 159 kg, whereas those in Uruguay reach only 136 kg; the females weigh 33-48 kg. Males are polygamous and establish territories in early November. Most of the pregnant females arrive on the rookeries in mid-November, and form small harems of about six animals. Within 6-7 days, each female bears a single pup and breeds 2-3 days later. The pup is usually weaned by July, although some may nurse for nearly a year. Most males first breed at age 7 and the females at age 3. Uterine implantation of the blastocyst probably occurs in March. Gestation, including the period of delayed implantation, lasts nearly one year. Most of the animals leave the rookeries during the austral winter. On the rookeries, the fur seals are in close contact with South American sea lions, *Otaria flavescens*. Main causes of death in order of importance are from sporadic storms, which

wash large numbers of pups out to sea; the seven-gilled shark; and probably the killer whale, which is common around the larger rookeries. The South American fur seal has 10 species of endoparasites, but no heart or lung worms. Nasal mites infest this species.

Ecological problems. Offshore oil wells are planned in the near future which may result in an ecological hazard.

Allocation problems. The species has esthetic, educational, and economic values. The Government of Uruguay annually harvests male fur seals on the islands. The harvest in 1972 was 11,000 and in 1973 will be 12,500.

Current research. Long-term research on this species is carried out by the Governments of Uruguay and Argentina. In addition, short-term projects are carried out by the Natural History Museum of Montevideo and the Smithsonian Institution.

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SOUTH AFRICAN (CAPE) FUR SEAL

(*Arctocephalus pusillus*)

Distribution and migration. The South African fur seal breeds on the mainland and coastal islands of southern Africa from Cape Cross (South West Africa) to Algoa Bay (South Africa). This species shows no definite seasonal migration, but disperses widely while feeding. A marked adult was seen in deep-sea trawling grounds 450 miles from its birthplace. Young seals in their first year (November to October) frequent protected bays and areas near their places of birth.

Abundance and trends. No current data are available on the total South

African fur seal population, however, Rand (1972) estimates about 19,500 mature territorial males and about 273,000 mature females on mainland and island rookeries. Commercial sealing now appears to be keeping the population fairly stable (op. cit.). First year pups (about 9 months) and a small (unknown) number of second year animals of either sex are harvested in the winter (June-September), although all cow seals are protected (op. cit.). In 1950, the winter harvest totaled 27,289 pups and has increased to 76,694 in 1971 (Laws, in press). The summer kill of surplus adult males (October-December) has declined from 3,000 in the early 1950's to 812 in 1969 (Rand, 1972).

General biology. The adult males weigh 204.2-317.6 kg and grow to 2.3 m long; females weigh 90.7-113.4 kg and are 1.5-1.8 m long. In late October, when most of the older pups are weaned, the first adult males come ashore to establish territories and harems; pregnant females arrive about a week later. In November and early December, the female bears a single pup (twins are rare), mates 5-6 days later, then leaves its pup for the first time and feeds for 1-2 days at sea. Subsequent nursing-feeding cycles extend to 4-5 days on land and 7-10 days at sea. Implantation of the blastocyst in the uterus is delayed until April or May. Thus, gestation is 7-8 months, but may be longer for some females that mate for the first time in their second year. At birth the pup is about 0.76 m long and averages 6.4 kg. Food consists of fish, cephalopods, and various small crustaceans.

The South African fur seal has stomach nematodes, a cestode and an acanthocephalan in the intestine, mites in the nasal cavity and pulmonary tubes, and an ectoparasitic louse.

Ecological problems. Sharks and killer whales are natural predators.

Allocation problems. Local fishermen engage in scattered and illegal killing of seals, contending that the animals interfere with their expanding purse-seine fishery. Seals occasionally feed on fish protruding through the meshes of otter trawl nets or taken by line fisheries.

Current research. A marking program on some rookeries is carried out by the South and South West African governments to measure herd size, annual recruitment, natural and harvest mortality, and movements.

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GUADALUPE FUR SEAL

(*Arctocephalus townsendi*)

Distribution and migration. This distribution of *A. townsendi* in the 18th and 19th centuries is unknown. The Guadalupe fur seal was believed extinct during two periods (1895-1926; 1928-49). One adult male was observed on San Nicholas Island in 1949, and breeding animals were rediscovered at Guadalupe Island in 1954. Subsequently, individual animals have been reported at Cedros Island, Baja California, and others have been sighted on San Miguel Island each year since 1968.

Abundance and trends. The last Guadalupe fur seal was commercially harvested from the islands of southern California and Baja California in 1894. The populations of Guadalupe fur seals on the Guadalupe and San Benito Islands apparently once numbered in the thousands. Rice et al. (1965) counted 285 of these mammals on Guadalupe Island and suggested that the population was growing rapidly and may contain as many as 600 animals, including those in the water.

General biology. Biological information on this species is scarce. No specimens have been collected since their recent rediscovery. The males are almost 1.8 m long. Males appear somewhat smaller and females considerably larger than *Callorhinus ursinus*. *A. townsendi* can be separated from *C. ursinus* by its narrow, pointed muzzle and the extension of pelage beyond the wrist onto the dorsum of the foreflipper. It is separated from *Zalophus californianus* by its distinctive underfur.

The pups are born in June and July. Although breeding has not been observed, a post partum estrus probably occurs, which would extend the breeding period into August. The adult males establish territories in isolated caves that have access to the sea or among large boulders close to the splash zone. Single or small groups of breeding territories are distributed along 20 km of the eastern shoreline of Guadalupe Island. The harems contain 1-10 females.

The feeding habits of *A. townsendi* are unknown. The adult males apparently spend considerable time at sea; all sightings at other islands have occurred during the nonbreeding season. The females may not migrate long distances from Guadalupe Island.

Ecological problems. Increasing numbers of human visitors to Guadalupe Island are subjecting the animals to more disturbance. Plans exist to develop the island for the tourist trade. Such development would increase disturbance and could reduce the amount of available breeding habitat for fur seals. Because they breed only on Guadalupe Island, the seals need complete protection from undue disturbance and habitat modification.

Allocation problems. None known.

Current research. The University of California makes periodic censuses of this species.

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NORTHERN FUR SEAL

(*Callorhinus ursinus*)

Distribution and migration. Most of the animals are on their breeding grounds from May through November to bear young and to breed. They otherwise are found at sea along the Continental Shelf from the Bering Sea south along both sides of the North Pacific Ocean to latitude 32° N. Some intermingling of eastern and western Pacific populations occurs at sea and on land, primarily among males younger than age 6 years.

Abundance and trends. Beginning in 1956, a program of reducing the population of Pribilof Islands fur seals was begun with the expectation that the rate of survival would improve (Roppel et al., 1963) and result in an increased yield of pelts. By 1968, it had become evident that the herd had been reduced to a level somewhat below that of maximum sustainable yield, and that an increase in the number of pups born was desirable.

Thus, no female fur seals have been harvested in the Pribilof Islands since 1968 with the expectation that the population would increase. However, less than average survival of several year classes, the cause of which is not understood, has prevented the expected increase. In 1973 the number of pups born was estimated to be 381,000 (unpublished data, Marine Mammal Division), and in the past the maximum yield of furs was produced when about 400,000 pups were born. In the 1969-72 period when no females were commercially harvested on the Pribilof Islands, an average of about 37,500 males were taken. In 1973, 28,457 males were harvested on St. Paul Island; fur seals were not harvested on St. George Island in 1973.

Apparently the Commander Islands fur seals have not become reestablished on a considerable portion of their original rookery area. Consequently, this population should increase to a higher level. It is likely that the Robben Island population is near the maximum. Johnson (1972) estimates the abundance of northern fur seals by breeding islands, as follows:

Location of fur seal rookeries	Estimated number of northern fur seals (in thousands)
Pribilof Islands	1,200
San Miguel Island	<1
Commander Islands	265
Robben Island	165
Kuril Islands	15
Total	1,645

General biology. The adult male weighs 227-318 kg, and the female 36-59 kg. Newborn pups average 4.5 (female) to 5.4 kg (male). The male is polygamous and establishes his territory in late May and early June. Most of the pregnant females arrive on the rookeries in late June and early July, when they form harems of 1-100 animals. Within 3 days of her arrival, the female bears a single pup (twins are rare), breeds 2 days later, then begins nursing-feeding cycles of 2 days on land and about 8 days at sea within a 200-mile radius. Implantation of the blastocyst is delayed until November. Most of the males first breed at age 10, and few live longer than 15 years. Immature fur seals arrive in descending order of age, the males beginning in mid-June and the females in late July. Some 1-year-olds haul out in September and October, but most fur seals return first at age 2. Most of the animals have left the rookeries by December. The adult males winter in northern waters, pregnant females usually migrate as far south as southern California, and young animals of both sexes are found throughout that range.

The main causes of death among pups on the rookeries are, in order of importance: Emaciation-malnutrition syndrome, hookworm disease, bacterial infections, injuries, and perinatal hemorrhagic syndrome. Pathogenic bacteria thus far isolated include: *Clostridium perfringens*, *Proteus mirabilis*, *Salmonella enteritidis*, and *Leptospira* sp. A psittacosis group virus has been reported, but the clinical syndrome caused by the

agent has not been described. Three other virus isolates from diseased fur seal pups are presently being characterized.

The fur seal has filarial worms, stomach ascarids, intestinal flukes, cestodes, hookworms, and acanthocephalans, and nasal mites, but no heart or lung worms. Hookworms and sucking lice parasitize the newborn.

Ecological problems. Northern fur seals concentrate within their body tissues contaminants such as pesticides and heavy metals. For example, mercury compounds have been found in fur seal liver, large quantities of which have been eaten by residents of the Pribilof Islands. No evidence exists that consumption of fur seal liver has been a health hazard, but following the discovery of mercury in this organ, little liver has been eaten by the people. The effect of contaminants on the health of fur seals is unknown.

Allocation problems. In the North Pacific Ocean and Bering Sea, fur seal and commercial fisheries may be in competition for the same species of fish. Harvesting of fur seals on the Pribilof Islands has been criticized in recent years by animal protection organizations that would prefer esthetic and educational rather than economic use of the resource.

Current research. Long-term research is financed and carried out by the Governments of Japan, Canada, the U.S.S.R., and the United States. Short-term projects are frequently carried out on the Pribilof Islands by university professors or graduate students.

In 1973 St. George Island was designated by the North Pacific Fur Seal Commission as an area of intensive research where no commercial harvest would take place for some period of years. An expanded research program on St. George Island and in the Bering Sea was started in 1973.

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- HARBOR SEAL**
(*Phoca vitulina*)
- Distribution and migration.** The harbor seal is found in the North Atlantic Ocean from the ice pack south to France and Georgia and in North Pacific Ocean waters from the Arctic Ocean south to Baja California and southern Japan and Korea. Populations that breed on the ice in the Bering and Okhotsk Seas are distinct from those that breed on land. *P. v. largha*, the ice-inhabiting form, lives in the seasonal pack ice in winter and spring, bearing and nurturing its pup there, and moves toward the coast when the ice retreats. The coastal forms (*P. v. richardii* and *P. v. kurilensis* in the North Pacific; *P. v. vitulina* and *P. v. concolor* in the North Atlantic) are more sedentary. The harbor seal is the predominant near-shore seal in ice free waters north of 35° N. latitude.
- Abundance and trends.** Overall, the world population of harbor seals appears to be high and stable. About 750,000 are present in the North Pacific area (Alaska Department of Fish and Game, 1973; Bigg, 1969; Chapskii, 1966) and about 150,000 in the European North Atlantic region (Chapskii, 1966).
- General biology.** Harbor seals of all subspecies are of medium size; large adults of both sexes are from 160 to 180 cm long and weigh from 130 to 150 kg. Pups weigh from 9 to 12 kg and are about 80 to 90 cm long at birth. Adults of the ice-inhabiting form pair in March for the duration of the breeding season, and a white-coated pup is born to each pair, on the ice, usually in March or April. Adults of the coastal form congregate on islets and bear dark-coated pups, usually in May to July. The pups of each form nurse 4 to 6 weeks, in which time the weight is more than doubled. Males of both forms become sexually mature at 4 to 5 years of age; females at 3 or 4 years. Breeding is annual, and the period of pregnancy (including delayed implantation) is about 10.5 months. Maximum longevity is at least 35 years. Adults of both forms are gregarious outside the breeding season. The diet of the harbor seal, which varies according to season and location of specific populations, includes primarily pelagic, demersal, and anadromous fishes, cephalopods, and crustaceans. Almost all of the adult seals have anisakid round worms and corynosomid acanthocephalans, and, occasionally, high infestations of anopluran lice. The latter seem associated with filarial heart worms and may be vectors. Toxoplasma has been reported in captive animals, but its presence in wild seals is not verified.
- Ecological problems.** In some parts of its range, the harbor seal contributes to high worm infections in fish, notably codfish. This animal is extremely sensitive to disturbance, and may leave an area temporarily or even permanently
- after continual harassment by people, equipment, or aircraft. Contamination of the environment with pesticides, heavy metals, and other contaminants may be a problem for the land-breeding harbor seal because it frequently inhabits the relatively closed waters of bays and estuaries where these contaminants are likely to concentrate.
- Allocation problems.** These seals damage commercial fishing gear and compete with man for such fish as herring, smelt, whitefish, and salmon.
- According to the Alaska Department of Fish and Game, hunting and the harvest of the harbor seal by Indians, Aleuts, and Eskimos have declined markedly during the past year because of a reduced market for salable products from these species. In southeastern Alaska, the decreased harvest has resulted in additional conflicts between the harbor seal and the fishermen.
- Current research.** Ongoing research in California, Washington, British Columbia, Alaska, the U.S.S.R., and Japan is aimed toward the identification of North Pacific populations and describing their distribution and movements, reproductive biology, feeding habits, growth, physiology, and ecology.

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RINGED SEAL (*Pusa hispida*)

Distribution and migration. The ringed seal is circumpolar in distribution in the ice pack. In the North Pacific Ocean it is found in the Bering, Chukchi, and Okhotsk Seas and in the permanent ice pack of the Polar Basin. In winter, most ringed seals occupy areas of land-fast ice, but nonbreeding adults and juveniles may be found wherever ice occurs. Apparently, animals wintering in the Bering and Chukchi Seas move northward in spring as the ice recedes and southward in autumn as it advances again, whereas those in the Canadian Arctic may reside year-round in the same locality. In western Alaska, the ringed seal is the dominant near-shore seal during months when sea ice is present and is replaced by the harbor seal during ice-free months. A small proportion of the population, mainly juveniles, remains in ice-free areas of the Bering Sea during summer.

Abundance and trends. Counts of ringed seals on land-fast ice along the northern coast of Alaska made in 1970 (Burns and Harbo, 1972) indicated that the density of resident animals varies from 5.36 per square mile in the Chukchi Sea between Point Lay and Wainwright, to 1.06 per square mile in the Beaufort Sea between Oliktok and Flaxman Island. Overall, the population in the Bering and Chukchi Seas appears high and is probably stable. Estimates of population size made by the Soviets are difficult to evaluate because they recognize three subspecies with overlapping ranges. The Soviets estimate that the total population of *P. hispida* is 5 to 6 million (Chapskii, 1966); *P. h. hispida* (North Atlantic and Arctic Oceans) at 2,500,000; *P. h. krascheni-nikovi* (western Bering Sea) at 12,000 (Shustov, 1969); and *P. h. ochotensis* (Okhotsk Sea) at 800,000 to 1,000,000 animals (Fedoseev, 1969, from Bychkov, 1971). The Alaska Department of Fish and Game (1973) estimates the Bering-Chukchi Seas population at about 250,000 ringed seals. The total U.S.-U.S.S.R. harvest is estimated at 12,000 to 16,000 seals annually in the Bering and Chukchi Seas. Almost all of these seals are taken by shore-based hunters because the animals are not numerous in areas where Soviet sealing vessels operate.

General Biology. The ringed seal is the smallest of the northern seals. The adults of both sexes grow to about 125 cm and 66 kg. A few individuals, usually females, become much larger. The animals undergo marked seasonal changes

in weight, being heaviest in mid- to late winter. The pups are born with white coats from March to early April in a birth lair within an ice pressure ridge or under drifted snow. Newborn animals are 55 to 65 cm long and weigh about 4.0 kg. The weight of the pup is tripled during a 4- to 6-week nursing period. Males become sexually mature at 6 to 8 years of age, females at 5 to 7 years. The ringed seal breeds annually, has a 10.5-month period of pregnancy (including delayed implantation), and is probably monogamous. Maximum longevity exceeds 35 years. Ringed seals tend to be solitary but congregate in areas favorable for feeding, along extensive tide cracks in land-fast ice, and during seasonal migrations. The diet of these seals varies considerably, depending on their location and water depth. In western Alaska, this mammal feeds mainly on mysids, amphipods, euphausiids, shrimps, saffron cod, polar cod, and sculpin.

These animals commonly have internal parasites, including round worms, acanthocephalans, and anopluran lice.

Ecological problems. None known.

Allocation problems. According to the Alaska Department of Fish and Game, hunting and the harvest of the ringed seal by Indians, Aleuts, and Eskimos have declined markedly during the past year because of a reduced market for salable products from these species.

Current research. The State of Alaska monitors the Eskimo harvest and conducts some biological research in conjunction with other programs. Canada conducts research on the ringed seal.

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GRAY SEAL (*Halichoerus grypus*)

Distribution and migration. The gray seal inhabits the North Atlantic Ocean, with major populations in eastern Canada, Iceland, and northwestern Europe. Dispersion, particularly by pups, from the Canadian breeding colonies in late spring and summer presumably accounts for most of the gray seals seen scattered along the coast of Maine. The tendency for adults to disperse is far less, although they at times make pronounced local movements. One animal tagged in eastern Canada was recently taken off western Norway.

Abundance and trends. The world population is estimated at 50,000 to 60,000 animals, with about two-thirds of these animals in the British Isles (Bonner, 1972). All populations have been increasing until recently, but now appear to be stabilizing (op. cit.). A small colony of 10-15 animals was recently discovered on Muskeget Island, Massachusetts.

General biology. The average length of adult males is 2.4 m and of females, 2.0 m. The average weight and length of the newborn pups are 13.6 kg and 0.9 m, respectively. Pups of the Canadian and Baltic populations are born mostly in February, whereas those in Britain are born mostly in September-October. At birth the pups are covered with a white natal coat, which is replaced by one of stiff hair with a distinctive pattern after 3 to 4 weeks. The pups are weaned in about 3 weeks, at which time mating occurs. The adult seals feed chiefly on skates, mackerel, flounders, cod, hake, and herring; and occasionally salmon, smelt, haddock, sea bass, dogfish, squid, and crustaceans.

Ecological problems. People occasionally harass the animals and use them for target practice.

Allocation problems. In eastern Europe they compete for commercial fishes and destroy fishing gear, and in Canada, the gray seal is an important predator of inshore herring taken commercially.

Current research. Research on biology, ecology, and populations continues by Canadian and British Governments and private groups. Some work is also being carried out by the University of Massachusetts on Muskeget Island and by the State of Maine.

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RIBBON SEAL

(*Histiophoca fasciata*)

Distribution and migration. Geographically, the ribbon seal is separable into the Okhotsk and Bering-Chukchi Seas populations, and interchanges between these two groups are not known to occur. In the latter group, the center of abundance is in the central Bering Sea. The ribbon seal bears and nurtures its pup on the sea ice. During winter and spring, the entire population is concentrated along the southern edge of the seasonal ice pack. Only a few ribbon seals remain with the ice edge as it retreats northward through Bering Strait. In summer and autumn, ribbon seals are believed to be pelagic, mainly in the ice-free Bering Sea.

Abundance and trends. The population of ribbon seals is relatively low and has been markedly reduced by commercial sealers of the Soviet Union during the last 10 years (Alaska Department of Fish and Game, 1973). U.S. citizens harvest very few ribbon seals. The Alaska Department of Fish and Game (1973) estimates that the population probably does not exceed 100,000 animals, and Soviet estimates indicate a population of 80,000 to 90,000. Commercial hunting by the USSR has reduced the population of these seals, but measures have been taken to limit the annual harvest. In Alaska, the harvest is usually less than 250 per year.

General biology. Adults of both sexes average 155 cm in length and 80 kg in weight. A very large 23-year-old female obtained in March was carrying a near-term fetus. This seal was 179.7 cm long with a girth of 114.3 cm, a blubber thickness of 6.1 cm, and a weight of 148.2 kg. Pups are born as whitecoats from late March to mid-April and average about 10.0 kg and 80 cm. The pup nurses for about 4 weeks, in which time its weight is tripled. Males become sexually mature between 3 and 5 years of age; females between 2 and 4. The species breeds annually, and pregnancy (including delayed implantation) probably lasts 10.5 months. Maximum longevity is estimated at 26 years. The diet of these seals during late winter and early spring (in the

ice edge zone) includes mainly pelagic and demersal fishes, cephalopods, and small crustaceans.

Ribbon seals host anisakid round worms in the stomach and corynosomid acanthocephalans in the intestine.

Ecological problems. None known.

Allocation problems. None known.

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HARP SEAL

(*Pagophilus groenlandicus*)

Distribution and migration. The harp seal occurs in pack ice in the North Atlantic Ocean from Europe to eastern Canada. In the spring, it migrates south for breeding to the White Sea, to the Greenland Sea north of 73° N, and to southern Labrador, northeastern Newfoundland, and the Gulf of St. Lawrence.

Abundance and trends. Three breeding stocks of harp seals are known, the eastern (White Sea), central (Norwegian Sea around Jan Mayen Island), and western (Newfoundland). The latter is divided into two substocks, one east of Belle Isle on winter pack ice drifting southward—the "Front," and the other in the southern Gulf of St. Lawrence on winter ice formed *in situ*—the "Gulf." Sergeant (1973) estimates the total eastern Canadian population at 1.3 million. The number of pups born decreased from about 400,000 in 1960 to 300,000 in 1970. The population size in 1970 was less than that giving maximum production, and estimates indicated the 1970 catch was well in excess of the sustainable yield (International Commission for the Northwest Atlantic Fisheries, 1971. Redbook, Part I, Standing Committee on Research and Statistics Proceedings, annual meeting). According to Bychkov (1971), harp seal stocks of the north-eastern Atlantic and Arctic Oceans (White Sea, Jan Mayen Island, and Newfoundland populations) numbered 3.0-

3.5 million in the mid-20th century. Bychkov (1971) also stated that the White Sea population totaled 3.0-3.5 million animals in 1926-28 and only 400,000 in the 1960's.

In 1971 the International Commission for the Northwest Atlantic Fisheries banned seal hunting in the Gulf of St. Lawrence from large vessels and from aircraft and set a quota of 150,000 harp seals for the hunt off Newfoundland and Labrador by Canadian and Norwegian nationals.

General biology. The adults grow to about 1.8 m and 180 kg; newborn pups are about 0.6 m long and weigh 4.5 kg. The pups are born from late January to early April, and are nursed for 10-12 days. Molting is complete at 4 weeks. The females mature at age 4-6 years and bear a single pup annually after a gestation of about 7½ months. Maximum life span is about 30 years. Pups feed primarily on small pelagic crustaceans and small fish, and in addition as adults on capelin, herring, and haddock.

Ecological problems. One species of helminth affecting the harp seal also is found in the muscles of ground fish, particularly cod, necessitating expensive removal by hand.

Allocation problems. The harp seal may eventually conflict with man over capelin stocks as this fishery expands.

Current research. Canadian, Danish, Norwegian, and Soviet Government scientists are studying the population of harp seals. At the University of Guelph, scientists are studying the biology of this mammal.

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BEARDED SEAL

(*Erignathus barbatus*)

Distribution and migration. The bearded seal is found in the North Pacific region in the Bering, Okhotsk, and northern Japan Sea and is circumpolar in the Arctic Ocean. In winter and spring it is found from the southern edge of the seasonal ice pack, north to permanent ice, wherever areas of broken, moving ice exists. During summer and autumn, it occurs along the edge of the permanent polar ice of the Arctic Ocean. Marked seasonal migrations are associated with the advance and retreat of the seasonal

ice. The bearded seal is usually solitary, though very loose aggregations are sometimes observed during the breeding season. It does not normally come ashore.

Abundance and trends. All populations seem to be at high levels and relatively stable. A Soviet estimate places the population at 450,000 animals in the East-Siberian, Chukchi, Bering, Okhotsk, and Japan Seas (Bychkov, 1971). The Alaska Department of Fish and Game estimates a population of 300,000 animals in the Bering, Chukchi, East-Siberian, and Beaufort Seas (Alaska Department of Fish and Game, 1973). The combined U.S. and Soviet harvest in the Bering and Chukchi Seas is 8,000 to 10,000 seals per year, well within the biological productivity of this species. Hunting loss, however, is high (op. cit.).

General biology. The bearded seal is the largest phocid of the western arctic and subarctic. Some adult females are slightly larger than adult males. Large adults attain a winter weight in excess of 340 kg. From June through September the adults weigh from 215 to 240 kg and average 236 cm in length. The female bears a single pup, usually during late April or early May, which weighs about 31 kg and is 132 cm long. The pup's weight is tripled by the end of the 12- to 18-day nursing period. Most adult females breed within 2 weeks of weaning their pup. The period of pregnancy is 10.5 months, including 2.5 months of delayed implantation. Some females ovulate at age 3 years, but reproductive maturity is not attained until they are 5 or 6 years old. The males become sexually mature at 6 or 7 years. An estimated 85% of the adult females become pregnant each year. The bearded seal consumes several species of invertebrates, principally crabs, shrimp, clams, and amphipods, and some demersal fishes.

Most bearded seals, other than nursing pups, are heavily parasitized by anisakid round worms in the stomach, acanthocephalans and diphylobothrid cestodes in the intestine, and anopluran lice on the skin.

Ecological problems. The bearded seal is the final host for anisakid worms that infect fishes, but this problem is unimportant in Alaska at present. About 1% of these animals harbor *Trichinella spiralis*, the cause of trichinosis in man.

Allocation problems. None known. Bearded seals consume commercial important pandalid and crangonid shrimps and lithode crabs; however, they do not compete directly for commercial fishes, nor do they damage fishing gear.

Current research. None known.

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CARIBBEAN MONK SEAL

(*Monachus tropicalis*)

The Caribbean monk seal is classified as endangered in the Red Book of the International Union for the Conservation of Nature. From 17 to 29 March 1973, the Bureau of Sport Fisheries and Wildlife, Department of the Interior, conducted an aerial survey of this species' former habitat in the Gulf of Mexico and Caribbean Sea. The conclusion was that the Caribbean monk seal is now extinct.

It formerly inhabited shores and islands of the Greater Antilles, Bahamas, Yucatan Peninsula, and Florida Keys. It was reported in Jamaican waters as late as 1952. A single pup was born, probably in alternate years. The adults grew to 2.4 m in length. The color was a uniform brownish gray above; the underparts were pale yellow or yellowish white. Monk seals were vulnerable to hunters because they were sluggish, unwary, and not easily alarmed.

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HAWAIIAN MONK SEAL

(*Monachus schauinslandi*)

Distribution and migration. The Hawaiian monk seal breeds only on French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, and Midway and Kure Atolls of the Leeward Hawaiian Islands. The first four of these islands are within the Hawaiian Islands

National Wildlife Refuge (HINWR). Rarely do individuals wander southeastward to the main Hawaiian Islands. The species is not known to have a migratory pattern.

Abundance and trends. The total population was estimated at 1,350 in 1958 (Rice, 1960). It is classified as rare by the Office of Rare and Endangered Species, Bureau of Sport Fisheries and Wildlife, and International Union for Conservation of Nature and Natural Resources. Counts in the 1960's and 1970's suggest that the population is declining (Kenyon, 1972).

General biology. An adult female measured 2.3 m and her estimated weight was 273 kg. On the average, females outweigh adult males. A typical male is about 2.1 m long and weighs about 173 kg. The newborn pups weigh 16-17 kg. The weights of six yearlings averaged 45 kg. Pups are born from late December to July, with the peak in April and May. Spewings found on haul-out areas included the remains of reef and bottom fishes, eels, and cephalopods.

Ecological problems. Harassment of the monk seal by humans and dogs on Midway and Kure Atolls may be causing a problem by preventing these animals from using sheltered dry pupping areas. Sharks are a serious predator.

Allocation problems. None known.

Current research. The HINWR Refuge Manager, Bureau of Sport Fisheries and Wildlife, has a pup tagging and recovery program in progress. The Refuge Manager also makes counts of animals on the beaches of the HINWR, usually in the spring and again in late summer. No studies or observations of the small populations on Midway and Kure, under U.S. Navy and U.S. Coast Guard control, are being made.

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CRABEATER SEAL

(*Lobodon carcinophagus*)

Distribution and migration. The species is circumpolar and abundant in pack ice of the southern oceans. It is found as a straggler in New Zealand, Australia, Tasmania, and South America. It moves toward the coasts in summer and away from land in the winter.

Abundance and trends. The crabeater seal is the most abundant species of seal in the Antarctic, with population estimates ranging from 2 to 5 million (Scheffer, 1958) to 50-75 million (Erickson, et al., 1971). Laws (in press) believes that the latter estimate is unreliable, but that earlier estimates were too conservative.

General biology. Adult males grow to 260 kg in weight and 2.6 m in length. Some females may be larger than males. Little information is available on breeding habits; mating has not been observed but sperm are present in the testes of males in October and November. Pups are born in the spring (mid-September to early November), and are about 1.4 m long. These seals molt in January and February, while partly fasting. Food is mainly euphausiids. Many individuals carry scars, possibly from leopard seal or killer whale attacks.

The species has lice on skin, roundworms in the stomach, and, rarely, tapeworms in the intestine.

Ecological problems. None known.

Allocation problems. None known.

Current research. The University of Minnesota is studying population dynamics of Antarctic seals; the University of Idaho is studying abundance, distribution, and reproductive biology; and the University of Oklahoma is studying anatomy, histology, and neuroanatomy.

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ROSS SEAL

(Ommatophoca rossi)

Distribution and migration. The species is circumpolar in heavy pack ice of the Antarctic Ocean.

Abundance and trends. The Ross seal is usually solitary. Scheffer (1958) lists the population at 20,000-50,000 but more recently Hofman et al. (in press) have estimated a population in excess of 100,000.

General biology. The adults reach a length of about 2.4 m. The animal is plump, with a short, wide head, a small mouth, and small teeth. The vocalizations of this mammal are striking and account for the common name "singing seal." Little is known of its reproduction and newborn pups have never been seen. The male matures at 3-4 years, and the female at 2-7 years. Breeding probably takes place in November and molting probably in January and February. Food consists primarily of fish and cephalopods. These animals may live up to 12 years.

Roundworms are found in the stomach, tapeworms in the intestine, and lice on the skin.

Ecological problems. None known.

Allocation problems. None known.

Current research. The University of Minnesota is studying the population dynamics of Antarctic seals; the University of Idaho is studying abundance, distribution, and reproductive biology; and the University of Oklahoma is studying anatomy, histology, and neuroanatomy.

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LEOPARD SEAL

(Hydrurga leptonyx)

Distribution and migration. Leopard seals are circumpolar in Antarctic pack ice and in southern temperate regions and subantarctic islands in the winter. They are occasionally seen off the southern tips of New Zealand, Australia, South America, and South Africa.

Abundance and trends. The leopard seal is a solitary animal. Scheffer (1958) estimated the population at 200-300 thousand. More recently (1972), Laws (in press) estimated the population at 250,000 to 500,000.

General biology. The adult males grow to 3.0 m in length and 450 kg in weight; adult females reach 3.3 m in length and 500 kg in weight. Leopard seals have a long slim body, large head, and wide gape. Males are sexually matured at 3-7 years and females at 2-6 years. The mating period is probably in November. Newborn pups are 1.6 m long and weigh 29.5 kg. Lactation lasts about 2 months. The seals molt during January and February. Their food consists of fish, euphausiids, squids, penguins, whale carcasses, and pups of other seals.

Leopard seals suffer from diseased teeth, tumors, bony nodules in nasal passages, and stomach carcinomas.

Ecological problems. None known.

Allocation problems. None known.

Current research. The University of Minnesota is studying population dynamics of Antarctic seals; the University of Idaho is studying abundance, distribution, and reproductive biology; and the University of Oklahoma is studying anatomy, histology, and neuroanatomy.

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WEDDELL SEAL

(Leptonychotes weddelli)

Distribution and migration. This species is circumpolar in fast ice around Antarctica, occasionally reaching as far north as Uruguay (lat. 35° S). It is littoral in distribution and nonmigratory. Because of its occurrence near scientific stations it is the best known of the Antarctic seals.

Abundance and trends. The population was estimated at 800,000 by Scheffer (1958), and Laws (in press) estimates present total population at 250,000 to 500,000.

General biology. Adult males grow to 2.7 m in length and females are slightly larger; up to 2.9 m in length. Males reach sexual maturity at 6-8 years and females at 3 years. The average age of breeding females is 9 years. They give birth from September to early November on fast ice, usually close to the Antarctic continent. Pregnancy lasts 9 to 10 months. Newborn pups are 1.5 m long, weigh 29 kg, and have permanent dentition. Lactation lasts 6-7 weeks and pups are weaned at 6 weeks. The females protect their pups and are aggressive toward intruders. This species feeds primarily on fish and cephalopods.

Wounds inflicted on this mammal heal slowly, and festering sores are common. Kidney stones and uterine fibroids have been found. Weddell seals are heavily infested with tapeworms, trematodes, and roundworms internally, and lice externally. Tooth wear associated with maintaining breathing holes may be a mortality factor.

Ecological problems. None known.

Allocation problems. None known.

Current research. The University of Minnesota is studying population dynamics of Antarctic seals; the University of Idaho is studying abundance, distribution, and reproductive biology; and the University of Oklahoma is studying anatomy, histology, and neuroanatomy.

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HOODED SEAL

(Cystophora cristata)

Distribution and migration. The hooded seal occurs mainly in the east Greenland pack ice from Bear Island and Spitzbergen to Jan Mayen, Iceland, and Denmark Strait. It also occurs off southern Greenland, southeastern Labrador, and the Gulf of St. Lawrence. Stragglers appear on the American coast as far south as Cape Kennedy, Florida, along the Canadian Arctic coast as far west as Hershel Island, and on the European coast as far south as the Bay of Biscay, France. Hooded seals prefer deep water and thick, drifting ice floes.

Abundance and trends. Hooded seals of all ages are harvested commercially when the animals are congregated for molting. According to Scheffer (1958), the herds in the middle of the 20th century were estimated at 300,000 to 500,000 and according to Chapskil (1966) 500,000. Sergeant (1965) states that the catch rate of hooded seals has been high. The average annual kill from the Jan Mayen Island herd declined from about 53,000 (1949-53) to about 40,000 (1959-63) (Popov, 1967).

General biology. Adult males grow to 2.7-3.0 m and 408 kg; females are slightly smaller. Hooded seals are solitary, but form widely scattered family groups during the breeding season in March. The pups are born from the end of March to the first part of April, are 1.1 m long and weigh 23 kg, and have an exceptionally beautiful silver-gray coat. They are nursed about 2 weeks. Both sexes mature at age 4-6 years and have a maximum life span of about 30 years. The adults mate when the lactation period ends and return to sea, leaving the pups on the ice where they remain an additional 2 weeks before following the adults. According to King (1964) hooded seals feed on octopus, squid, rosefish, herring, capelin, cod, shrimp, mussels, and starfish.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on the hooded seal is carried out by the Fisheries Research Board of Canada, Denmark (Grønlands Fiskeriundersøgelse), Norway (Fiskeridirektoratets Havforskning Institut), and the Soviet Union (VNIRO).

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SOUTHERN ELEPHANT SEAL

(Mirounga leonina)

Distribution and migration. The southern elephant seal is circumpolar on subantarctic islands, south to the ice edge at lat. 78° S. It breeds on the continental coast of Argentina, and on subantarctic islands.

Abundance and trends. The population of the southern elephant seal has been estimated at 600,000±100,000 (Laws, in press). This species was once sought for its oil. It was nearly extinct by 1900, but since that time regulations have allowed the herds to increase. At South Georgia the average annual kill between 1952 and 1964 was 6,000 animals. There has been no commercial sealing there since 1964, although licenses to harvest these animals have been offered (Laws, in press).

General biology. The southern elephant seal is the largest pinniped. Males grow to 5.5-6.1 m in length and 3,628 kg in weight; females reach 3.1-3.7 m and 907 kg. Males are sexually mature at 4 years, and hold harems at 5-7 years in utilized populations. The females mature at age 2 years and bear single pups at age 3. In unutilized populations, the females mature at age 3-6 years, but the males do not reach harem status until 12 years old. Most harems contain 20 to 40 females, but up to 100 have been counted. The pups are born in October, about 1 week after the females haul out, are 1.2 m long, weigh 36 kg, and nurse about 23 days. The females mate about 18 days after their pups are born. The females live about 12 years and the males up to 20. The leopard seal and killer

whale are natural enemies of the southern elephant seal.

Ecological problems. None known.

Allocation problems. According to Laws (in press) the southern elephant seal may become threatened because they compete with Soviet fishermen for commercial species of fish.

Current research. The University of Minnesota makes incidental observations of this mammal while studying the Antarctic seal species.

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- NORTHERN ELEPHANT**
(*Mirounga angustirostris*)
- Distribution and migration.** This species originally occupied rookeries and hauling grounds on the mainland and islands from Cabo San Lazaro, Baja California, northward to Pt. Reyes, just north of San Francisco. Nonbreeding animals range at least as far north as southeastern Alaska.
- Abundance and trends.** By 1890 the population had been reduced to 100 or fewer animals found only on Guadalupe Island, but this number increased to an estimated 15,000 animals by 1960 (Bartholomew and Hubbs, 1960). Peterson and LeBoeuf (1969) estimated a population of about 30,000 in 1969. This species has reoccupied most or all of its historic rookeries and hauling grounds. The first birth of a pup on the Farallon Islands (northern limit of the historic breeding range) was observed on 21 January 1972 by David Ainsley, a biologist from the Pt. Reyes Bird Observatory (San Francisco Chronicle, 25 January 1972).
- The California Department of Fish and Game has counted elephant seals during sea lion census in early June since 1965 (Carlisle and Aplin, 1971). Carlisle (1973) has counted *Mirounga* on San Miguel Island each year from 1965 through 1973 except 1968. Recent California counts do not indicate any trend in abundance. Odell (1972) believes that the San Nicolas Island population is increasing. The largest California population of *Mirounga* is found on San Miguel Island, where 3,137 were counted 26 February 1972 by Johnson and DeLong (pers. comm.). Carlisle (1973) counted 3,600 in 1973.
- General biology.** The adult males usually arrive first on the rookeries in November, followed by the pregnant females in December. Dominant adult males occupy choice locations within the breeding colonies and do most of the mating. The female usually bears a single pup about 7 days after her arrival and weans it about a month later. The female is bred during her last few days ashore. Maximum lengths are about 5 m for adult males and 3.3 m for adult females. Newborn pups are about 1.2 m in length. Little information on the feeding habits of *Mirounga* are available. The stomach of one elephant seal contained seven ratfish, one 66.0 cm California dogfish shark, one swell or puffer shark, three skates, and four squids. The species apparently can feed at considerable depths, as indicated by prey species and the fact that three young *Mirounga* were taken on hooks set in about 100 fathoms.
- Ecological problems.** Oil from the Santa Barbara spill of 28 January 1969 coated about 100 elephant seal pups ashore on one area of San Miguel Island. The pups had been weaned and apparently suffered no ill effects.
- Allocation problems.** None known.
- Current research.** Scientists from the University of California at Santa Cruz, Calif., are studying this species.
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- BLACK RIGHT WHALE**
(*Balaena glacialis*)
- Distribution and migration.** This right whale inhabits all temperate waters of the world. It migrates between summering grounds in cool temperate waters and wintering grounds in warm temperate waters; the wintering grounds are mostly along continental coasts or around islands.
- Three geographically isolated populations are recognized, one in the North Pacific Ocean, another in the North Atlantic Ocean, and a third in the Southern Hemisphere.
- In the eastern North Pacific Ocean, the right whale ranges from Bristol Bay and the Gulf of Alaska south to 50° N latitude during the summer, and from Oregon south to central Baja California during the winter.
- In the western North Atlantic Ocean, it ranges from Labrador south to the Bay of Fundy during the summer, and Massachusetts south to Florida and Bermuda during the winter.
- Abundance and trends.** The right whale was originally very abundant, but heavy exploitation, mostly during the 19th century, reduced all populations nearly to extinction by the turn of the century. At least some local stocks have increased in recent years. Present numbers are: North Pacific Ocean—about 250 (Wada, 1972); North Atlantic Ocean—no estimate; Southern Hemisphere—about 4,300 (Masaki, 1972).
- General biology.** The black right whale is a heavy-bodied animal up to 18.0 m long and is characterized by lack of a dorsal fin and by a large head with a narrow arched rostrum. It feeds mainly on copepods. The reproductive biology is poorly known. Body length at sexual maturity is about 15.2 m in males and 15.8

m in females. Mating and calving occur in the winter, so the gestation period is probably about 1 year. The female probably bears a calf only once every 2 (or more) years.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on the black right whale is being carried out by the South African Division of Sea Fisheries and off Argentina by a joint project of the National Geographic Society and the New York Zoological Society.

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BOWHEAD WHALE

(*Balaena mysticetus*)

Distribution and migration. The bowhead whale inhabits arctic and subarctic waters in four principal areas: (1) From Spitzbergen west to east Greenland; (2) in Davis Strait, Baffin Bay, James Bay, and adjacent waters; (3) in the Bering, Chukchi, Beaufort, and East Siberian Seas; and (4) in the Okhotsk Sea. They migrate with ice movements.

Abundance and trends. All bowhead whale populations were decimated by the end of the 19th century because of the great value of this species for oil and baleen (Tomlin, 1957). No commercial whaling for bowheads has taken place since about 1915. Eskimos in several arctic coastal villages of Alaska continue to hunt these whales which are an important part in the subsistence economy of the villages. In the last two decades the take of bowhead whales by Eskimos in Alaska has varied between 1 (1959) and 37 (1972) (Maher and Wilimovsky, 1963; Durham, unpublished records). Much of this variation in take is because of variation in hunting conditions, although in recent years an increase in hunting intensity may have taken place. Bowhead whales are taken only occasionally by U.S.S.R. nationals (Zemsky, 1973, pers. comm.). The bowhead whale population of Canada and the Bering, Chukchi, and East Siberian Seas appears to be increasing (Mansfield, 1971; Burns, pers. comm.).

General biology. The bowhead whale grows to 18 m in length. Sexual maturity is reached at 11.6 m and 12.2 m in males and females, respectively. Mating probably occurs in early April or earlier. Gestation lasts 12-13 months, with a single calf (3-4.5 m long) born in April-May.

The calf is weaned at 6 months. The reproductive cycle is apparently 2 years. These whales travel singly, in pairs, or threes during the spring. In autumn they are generally scattered, but may occur in groups of up to 50. They feed mainly on euphausiids and other krill, but occasionally on bottom-dwelling invertebrates.

Ecological problem. The north-slope oil project might alter the inshore southward migration should fall steamer and barge traffic increase to force the whales farther offshore.

Allocation problems. Some conflict of interest may exist between people who would like complete protection for bowhead whales and Eskimos who hunt these whales. An undetermined number of bowhead whales struck are lost due to the method of eskimo hunting.

Current research. The University of Southern California has been under contract to the National Marine Fisheries Service (Seattle) to gather biological data on bowhead whales in 1973. In the spring of 1973 a group of scientists from U.S. and Canadian universities attempted to record underwater sounds of the bowhead whale. The Fisheries Research Board of Canada makes annual surveys from planes of bowhead whales in Canadian waters.

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GRAY WHALE

(*Eschrichtius robustus*)

Distribution and migration. The gray whale is now restricted to the North Pacific Ocean, although it once occurred in the North Atlantic Ocean.

Two geographically isolated populations are recognized: (1) The eastern Pacific ("California") stock, which spends the summer in the Chukchi, western Beaufort, and northern Bering Seas

(and rarely along the coast as far south as central California), and migrates to the west coast of Baja California and the southern Gulf of California for the winter; and (2) the western Pacific Ocean ("Korean") stock, which spends the summer in the northern Sea of Okhotsk and migrates to the southern coast of Korea for the winter.

Abundance and trends. Eastern North Pacific Ocean—contrary to earlier published estimates, the original population was almost certainly less than 15,000 (Henderson, 1972). During the late 18th and early 19th centuries the population was greatly reduced. Since complete protection was given the stock in 1947, the population has increased to about 11,000 and has remained stable since 1967 (Rice and Wolman, 1971). In 1972, 181 gray whales were killed in subsistence fishery on the Chukotski Peninsula in Siberia (Zemsky, 1973, pers. comm.), and in some years one to three gray whales are taken by Eskimos in Alaska.

Western North Pacific Ocean—in 1910, the population probably numbered between 1,000 and 1,500. It now appears to be extinct.

General biology. The gray whale is identified by its mottled gray color and low hump in place of a dorsal fin. It feeds on benthic amphipods and other benthic invertebrates on the summering grounds, and fasts during migrations and on wintering grounds. Sexual maturity is attained at age of 5 to 11 years, at a mean body length of 11.0 m for males and 11.6 m for females. The mating season is in late November and early December while the animals are on their southward migration. The calf is born following a 13-month gestation period after the pregnant females have arrived in certain shallow lagoons on the west coast of Baja California. The female bears a calf only once every 2 or more years. The calves average about 5.0 m long at birth and are weaned 7 months later when they about 8.0 m long.

Ecological problems. The gray whale is now valuable as a tourist attraction, and it supports a rapidly increasing cruise-boat industry, including 1/2-day cruises off San Diego and Los Angeles, and week-long cruises from these ports to Scammon's Lagoon. These activities have generated a problem of increasing harassment of the whales. In 1972, the Mexican Government declared Scammon's Lagoon a whale refuge, so the activities of the cruise boats are now partly regulated.

Current research. Studies on gray whales are being conducted by the National Marine Fisheries Service and the Soviet Union's Far Eastern Institute of Marine Fisheries and Oceanography.

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MINKE WHALE

(*Balaenoptera acutorostrata*)

Distribution and migration. The minke whale inhabits all oceans of the world, except in equatorial regions, and ranges into the polar pack ice zones in the Northern and Southern Hemispheres. It makes extensive seasonal migrations between high-latitude summering grounds and low-latitude wintering grounds.

At least three geographically isolated populations are recognized, one in the North Pacific Ocean, another in the North Atlantic Ocean, and a third in the Southern Hemisphere. The affinities of the minke whale stocks in the northern Indian Ocean are unknown.

In the eastern North Pacific Ocean, the minke whale ranges from the Chukchi Sea south to northern Baja California during the summer, and from central California south to the Islas Revillagigedo off central Mexico during the winter.

In the western North Atlantic Ocean, it ranges from Baffin Bay south to Chesapeake Bay during the summer, and from the eastern Gulf of Mexico and north-eastern Florida to the Bahamas during the winter.

Abundance and trends. The minke whale has long been an important species in the "small whale" fisheries of the world. In 1972, catches were: Norway—2,650; Iceland—35; Greenland—145; Newfoundland—97; Japan—341; Brazil—702; Korea—no data; South Africa—135. During the 1972-73 season, 5,743 minke whales were taken in the Antarctic. In the 1972-73 season, Japan sent two factory ships to the Antarctic specifically for minke whales. No estimates are available of the abundance of this species in the North Pacific or North Atlantic. In the Southern Hemisphere the present population, which is virtually unexploited, numbers at least 200,000 (International Whaling Commission, 1973).

General biology. The minke whale is the smallest member of the genus *Balaenoptera*, not exceeding 10 m in length in the Northern Hemisphere. The northern animals are distinguished by a white band on the flipper; individuals from the Southern Hemisphere average about a meter longer, and usually lack the white length of 7.0 m in males and 7.9 m in flipper band. The minke whale feeds some small fishes. In the Northern Hemisphere, it attains sexual maturity at an age of 7 to 8 years and an average body females. The female bears a calf only once every 2 years (rather than annually, as once believed). During the summer, pregnant females migrate to much higher latitudes than do the lactating and immature females.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on minke whales is being conducted by the Japanese Far Seas Fisheries Research Lab-

oratory, the South African Division of Sea Fisheries, and the Norwegian State Institute for Whale Research.

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BYRDE'S WHALE

(*Balaenoptera edeni*)

Distribution and migration. The Bryde's whale is found in tropical and warm temperate coastal waters around the world. In the western Atlantic Ocean, it ranges from the Gulf of Mexico south to Cabo Frio, Brazil, and in the eastern Atlantic Ocean from Morocco south to the Cape of Good Hope. In the Indian Ocean, it ranges from the Cape of Good Hope north to the Persian Gulf, east to the Gulf of Martaban, Burma, and thence south to Shark Bay, Western Australia. In the western Pacific Ocean, it is distributed from northern Hokkaido, Japan, south to Victoria, Australia, and North Island, New Zealand; in the eastern Pacific Ocean, it ranges from central Baja California, Mexico, south to Iquique, Chile.

At least some of the temperate zone populations (Japan, South Africa) make limited seasonal migrations. The tropical populations may be sedentary.

Abundance and trends. The Bryde's whale is of minor importance in the modern whaling industry. Until recently, only a few of these animals were taken by shore stations in Japan, South Africa, and rarely elsewhere. Since 1970, however, increasing numbers have been harvested by Soviet and Japanese pelagic expeditions in the western North Pacific Ocean, as these expeditions have shifted operations more to the south. The population in the western North Pacific Ocean (the only one that has been exploited significantly) numbers between 5,000 and 18,000, and is probably above the level needed for a maximum sustainable yield (Ohsumi, Shimadzu, and Doi, 1971). Estimates of populations elsewhere in the world have not been made.

General biology. The Bryde's whale is very similar in appearance to the sei

whale, and the two species were formerly confused. The Bryde's whale is slightly smaller—usually less than 13.5 m long; its throat grooves extend posteriorly beyond the umbilicus, and it has a pair of lateral ridges on top of its snout, one on each side of the median ridge. The fringe on its baleen plates is much coarser than that of the sei whale. It feeds mainly on small schooling fishes, and also takes some euphausiids and other crustaceans. Males attain sexual maturity at an average length of 12.2 m and females at 12.5 m. The mating and calving season is usually during the winter, but in some areas—South Africa, for example—they breed year-round. The gestation period is about 1 year. The female does not bear a calf 2 years in succession.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on the Bryde's whale is being conducted by the South African Division of Sea Fisheries and the Japanese Far Seas Fisheries Research Laboratory.

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SEI WHALE

(*Balaenoptera borealis*)

Distribution and migration. The sei whale is nearly world wide in distribution. In the eastern North Pacific, it summers from California to the Gulf of Alaska and Aleutian Islands; in the North Atlantic, from New England and the British Isles to the Arctic Ocean. In winters at low latitudes. In the Southern Hemisphere this species summers in all oceans from 30° S latitude and southward, and in winter it is generally found north of 40° S latitude.

Abundance and trends. Information in this section is from the annual reports of the International Whaling Commission (1972, in press) and from recent reports of the Bureau of International Whaling Statistics. Stock sizes available for commercial harvest are estimated to be about 80,000 in the southern oceans and 33,000 to 37,000 in the North Pacific Ocean. Definitive stock estimates of this species in the North Atlantic are not available, though a tentative estimate for the population off Nova Scotia is 1,570. In addition, all stocks contain unknown numbers of sei whales younger than those utilized commercially because a minimum length restriction prevents the taking of these animals and development of population data on this segment of the herd. The sei whale is the second most valuable baleen whale, and populations appear to be near the level of maximum sustainable yield. Catches of sei whales in recent seasons have been:

Season	North Pacific	North Atlantic	Southern oceans (south of 40° S.) ¹	Southern land stations
1969.....	5,158	222	5,857	824
1970.....	4,504	551	6,153	138
1971.....	2,993	475	5,452	440
1972.....	2,327	315	3,864	9

¹ Southern oceans catches are for the seasons 1969-70, 1970-71, 1971-72, 1972-73, respectively.

² No information from Brazil and Chile in 1969.

General biology. The species resembles the fin whale but is slightly smaller, with less white underneath, and a large dorsal fin. In the far north of the northern hemisphere it feeds mostly on copepods. The diet is much more varied in lower latitudes—including euphausiids, copepods, sauries, anchovies, herring, sardines, and jack mackerel. Sei whales usually travel in small pods of 2-5. They attain sexual maturity at 6-12 years of age, at a body length of about 13.1 m (males) and 13.7 m (females). Females bear calves every 2 or 3 years. The mating and calving season occurs in winter in the respective hemispheres. Gestation lasts 1 year, and the calf is weaned when about 7 months old.

Seven percent of the sei whales taken off California have been infected with a unique disease that causes progressive shedding of the baleen plates and their replacement by an abnormal papilloma-like growth.

Ecological problems. None known.

Allocation problems. None known.

Current research. The National Marine Fisheries Service will share in population and biological studies of this species. Other organizations carrying out research on this species are the Japanese Whale Research Institute and Japanese Far Seas Fisheries Research Laboratory (North Pacific and Antarctic), Fisheries Research Board of Canada (North Atlantic), Norwegian State Institute for Whale Research (Antarctic), British National Institute of Oceanography (South Africa and Antarctic), South African Division of Sea Fisheries (South Africa), and Soviet All-Union Research Institute of Marine Fisheries and Oceanography.

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FIN WHALE

(*Balaenoptera physalus*)

Distribution and migration. The fin whale is nearly world wide in distribution. In the eastern North Pacific it summers from California into the Chukchi Sea, and in the North Atlantic from Cape Cod and Spain into the Arctic Ocean. The fin whale migrates to more southern latitudes in winter. In the Southern Hemisphere it is generally found at latitude 40°-60° south in summer and from 20°-40° south in winter.

Abundance and trends. Information in this section is from the annual reports of the International Whaling Commission (1972, in press) and from the reports of the Bureau of International Whaling Statistics, Sandefjord. Stock sizes available for commercial harvest are estimated at about 80,000 in the Southern Hemisphere, 10,000 to 13,000 in the North Pacific, and about 7,000 in the Northwest Atlantic and possibly in the Northeast Atlantic. In addition, all stocks contain unknown numbers of whales younger than those utilized commercially because a minimum length restriction on the catch prevents the taking of these animals and development of population data on this segment of the herd. Recent catches from the stocks have been:

Season	North Pacific	North Atlantic	Southern oceans ¹	Southern land stations ²
1969.....	1,276	800	3,002	224
1970.....	1,012	911	2,890	132
1971.....	802	663	2,683	40
1972.....	758	598	1,761	51

¹ Southern ocean catches are for the seasons 1969-70, 1970-71, 1971-72, 1972-73, respectively.

² No information from Brazil and Chile.

The fin whale is commercially the most valuable baleen whale. Stocks in the North Pacific and southern oceans are below maximum sustainable yield levels.

General biology. This species is second in size only to the blue whale; in the Northern Hemisphere it grows to at least 23.2 m and is distinguished by a gray back, white belly, and well-developed dorsal fin. Fin whales feed mostly on euphausiids, but often eat fish—especially anchovies in the North Pacific and capelin in the North Atlantic. They usually travel in small pods of 2-5 animals. Fin whales are sexually mature at 6-12 years, and at a body length of about 17.7 m (males) and 18.3 m (females). Females bear calves every 2-3 years. The mating and calving season occurs in winter in respective hemispheres. Gestation lasts 1 year and the calf is weaned at about age 7 months.

Ecological problems. None known.

Allocation problems. None known.

Current research. The National Marine Fisheries Service plans to share in population and biological studies of this

species. Other organizations carrying out research on this species are the Japanese Whales Research Institute and Japanese Far Seas Fisheries Research Laboratory (North Pacific and Antarctic), Fisheries Research Board of Canada (North Atlantic), British National Institute of Oceanography (South Africa and Antarctic), South African Division of Sea Fisheries (South Africa), and Soviet All-Union Research Institute of Marine Fisheries and Oceanography (North Pacific and Antarctic).

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BLUE WHALE

(*Balaenoptera musculus*)

Distribution and migration. The blue whale is found throughout all oceans from the equator to the polar pack ice zones in the Northern and Southern Hemispheres. It makes seasonal migrations between rather restricted high-latitude summering grounds and low-latitude wintering grounds.

At least three geographically isolated populations are recognized, one in the North Pacific Ocean, another in the North Atlantic Ocean, and a third in the Southern Hemisphere. Each population is probably comprised of several more or less discrete stocks. The "pygmy blue whale" of the southern Indian Ocean is morphologically distinct from the stocks which spend the summer in Antarctic waters. The affinities of the blue whale populations in the Arabian Sea and Bay of Bengal are unknown.

In the eastern North Pacific Ocean, blue whales range from the Aleutian Islands and Gulf of Alaska south to central California during the summer, and from central Baja California south to southern Sinaloa, Mexico, during the winter.

In the western North Atlantic Ocean, they range from Davis Strait south to the Gulf of St. Lawrence during the summer (the winter range of this stock remains unknown).

Abundance and trends. During the first half of the 20th century, the blue whale was one of the most important cetaceans to the whaling industry, but it is now so rare that it will require probably half a century of complete protection to restore the stocks to a significant level. In the North Pacific Ocean the population, which once numbered about 5,000, now contains about 1,500 individuals (Ohsumi and Wada, 1972). This species apparently has been slowly increasing since 1966, the year it was first given complete protection.

The population in the western North Atlantic (off eastern Canada), which originally numbered about 1,100, is now much less (Allen, 1970). Estimates of the eastern North Atlantic population have not been made.

The Southern Hemisphere population originally numbered about 200,000 (Chapman, Allen, and Holt, 1964), but was severely depleted before complete protection was given the stock in 1965. Gulland (1972) states that the most likely recent history of blue whale numbers would be a catchable stock of some 4,000 whales in 1963, which has increased to some 6,000 (at about 4 to 5 percent per year) plus a similar number of blue pygmy whales.

General biology. The blue whale is the largest mammal that ever lived on earth, reaching a known length of 29 m and a weight of 136 tons. It is distinguished from the fin whale by its mottled blue-gray color dorsally and ventrally, its smaller dorsal fin, its broad flat snout, and its black baleen plates. Blue whales feed exclusively on euphausiids during the summer, and fast during the winter. They become sexually mature at an average age of about 10 years, when males of the Antarctic stocks average 22.5 m and females 24.0 m; blue whales of the Northern Hemisphere average about 1 m shorter, whereas the "pygmy" blue whales of the southern Indian Ocean average about 2 m less in length. Every 2 or 3 years during the winter months the female gives birth to a calf after a 12-month gestation period. At birth the calf is about 7 m long; when weaned 8 months later it is about 15 m long.

Ecological problems. None known.

Allocation problems. None known.

Current research. Observers aboard whaling and research vessels record sightings of blue whales and routinely report them to the International Whaling Commission.

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- HUMPBACK WHALE**
(*Megaptera novaeangliae*)
- Distribution and migration.** The humpback whale is found in almost all oceans from tropical waters to the edge of, but not into, the polar pack ice zones in the Northern and Southern Hemispheres. It makes extensive seasonal migrations between higher latitude summering grounds and low-latitude wintering grounds—the latter along continental coasts or around islands.
- Three geographically isolated populations are recognized, one in the North Pacific Ocean, another in the North Atlantic Ocean, and a third in the Southern Hemisphere. Each population is comprised of several almost entirely discrete stocks.
- In the eastern North Pacific Ocean, the humpback whale ranges from the Chukchi Sea south to southern California during the summer, and from southern California south to the Islas Revillagigedo and Jalisco, Mexico, and also around the Hawaiian Islands, during the winter.
- In the western North Atlantic Ocean it ranges from Disco Bay in western Greenland south to Massachusetts during the summer, and from Hispaniola and Puerto Rico south to Trinidad during the winter.
- Abundance and trends.** The humpback whale was important, especially to shore stations, during the first half of the 20th century. Now, however, this mammal is so scarce that it will require a half century of complete protection for it to increase to a significant level. A few are killed in subsistence fisheries in Greenland, the Lesser Antilles, and the Tonga Islands. It has a minor value as a tourist attraction in Hawaii and southeastern Alaska. The original population size of the North Pacific Ocean is unknown, but is now severely depleted to about 1,200 individuals (Wada, 1972). The animals have apparently not increased since complete protection was given the species in 1966.
- The original population size of the North Atlantic Ocean is unknown, and the western North Atlantic Ocean stock is now reduced to less than 1,000 animals (Allen, 1970). A small increase may have occurred in recent years. Estimates of the eastern North Atlantic Ocean population have not been made.
- The original population of the Southern Hemisphere, which probably numbered about 100,000, now contains about 3,000 individuals (Chapman, in press; Masaki, 1972). The stock has apparently not increased since complete protection was given the species in 1964.
- General biology.** The humpback whale is much more heavily bodied than members of the genus *Balaenoptera*, and is characterized by its extremely long flippers. It feeds mainly on euphausiids, but also eats anchovies and sardines when available. The species attains sexual maturity at an age of 6 to 12 years, when males average 11.6 m long and females 11.9 m. The mating and calving season is from October to March in the Northern Hemisphere, and April to September in the Southern Hemisphere. The gestation period is 12 to 13 months and the calf nurses for about 11 months. The female rarely bears a calf 2 years in succession.
- The humpback whale is heavily infested with three species of ectocommensal barnacles and with whale lice.
- Ecological problems.** None known.
- Allocation problems.** None at present.
- Current research.** Observers aboard research vessels and foreign whaling ships record sightings of humpback whales and routinely report them to the International Whaling Commission.
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- ROUGH-TOOTHED DOLPHIN**
(*steno bredanensis*)
- Distribution and migration.** The rough-toothed dolphin inhabits tropical and warm temperate seas. It ranges in the western Atlantic Ocean from Virginia south. In the North Pacific Ocean it ranges north to southern Japan (35° N) where it is rare, and to the Hawaiian Islands where it is fairly common. It is unknown from the eastern North Pacific except for one stranding near San Francisco.
- Abundance and trends.** The rough-toothed dolphin is uncommon but not rare throughout most of its range. It is

seldom caught in the Japanese dolphin fishery (Ohsumi, 1972), and has been recorded on a few occasions in the eastern tropical Pacific tuna fishery (NOAA, 1972).

General biology. This dolphin grows to about 2.4 m. Little is known of its biology or habits. Circular scars on its skin suggest that this species feeds on large squid.

Ecological problems. None known.

Allocation problems. None known.

Current research. The Oceanic Institute of Hawaii is studying this species in the wild.

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- BOTTLENOSED DOLPHIN**
(*Tursiops truncatus*)
- Distribution and migration.** The bottlenosed dolphin is widely distributed in temperate and tropical waters, but strays into much colder latitudes. In the western Atlantic Ocean, it ranges from southern Greenland and Canada to Patagonia, but is best known from New England southward through the West Indies and Caribbean. In the eastern Atlantic, it is found from the northeast Scandinavian coast to South Africa. In the eastern Pacific Ocean, its northern limit is probably Oregon, and it ranges south to Chile. In the western Pacific, it is found north to Japan and south to Australia and New Zealand. Its Pacific range includes the Hawaiian Islands, where it is said to be common. Nominal species have been named from the tropical Indo-Pacific (*T. aduncus*), and the northern Gulf of California and waters along the west coast of Baja California and southern California (*T. gilli*). The geographical ranges and characters delimiting these named forms are still poorly defined. The Small Cetaceans Subcommittee of the International Whaling Commission, commenting on the taxonomy of *Tursiops*, indicated that while "the necessary taxonomic work has not yet been done, it seems likely that there is only one species of *Tursiops*, with sharply-defined geographical races varying in body size and tooth size and distributed differentially relative to sea temperature and depth. There is great need to gather materials that will allow definitive examination of the nominal species *T. aduncus*, *T. gilli* and *T. nunanu*, and materials from as many other populations as possible. These names are currently used by some workers." Limited and subjective data suggest that populations are localized within about a 100-mile radius and that this species does not make long migrations.
- Abundance and trends.** In North Carolina, from 500 to 1,500 animals were killed annually by the early 20th century (Townsend, 1914). A few bottlenosed dolphins are now taken for food in small open-boat pilot whale fisheries in the Lesser Antilles (St. Vincent, St. Lucia, Dominica) and some are harvested by Venezuelan fishermen. Several hundred bottlenosed dolphins are taken each year off Florida, Mississippi, and Texas for display in marine aquariums and for research. Some of these animals are shipped alive to Hawaii, California, and Europe. Trends are based on subjective data, but it is believed that local populations of the southeastern United States are not now being reduced by these activities (D. K. Caldwell, pers. comm.).
- General biology.** Bottlenosed dolphins are 1.1 m long at birth and grow to 3.6 m in length and 650 kg in weight. Captive animals have become sexually mature at 6 years, but recent evidence suggests that this species normally breeds at about 12 years. Gestation lasts about one year, and calves may nurse for 1.5 to 2 years, although they begin to take solid food at age 6 months. Breeding apparently occurs throughout the year, but the fact that most of the young are born during a certain time of year suggests that breeding, as well as calving, takes place in the spring and summer. This dolphin is likely to be seen in bays and lagoons, sometimes venturing far up large rivers. These dolphins are usually found close to shore and near islands, but some populations live well beyond the continental shelf. Bottlenosed dolphins are often seen in large loose schools of several hundred animals, which appear to consist of aggregations of small groups of no more than a dozen individuals. Humpback and right whales traveling along the Atlantic coast of Florida are almost always accompanied by bottlenosed dolphins. Bottlenosed dolphins feed on several species of fish, squid, and a few crustaceans. Bottlenosed dolphins have been trained to dive to a depth of about 305 m, from where they have returned within a few minutes. The estimated life span for this species is about 30 years, but it may be longer. Bottlenosed dolphins are extremely social and quick to learn a show routine or experimental procedure. They have been credited with a high order of intelligence, which has not been demonstrated experimentally.
- Ecological problems.** None known.
- Allocation problems.** Bottlenosed dolphins have been accused of harassing fishing efforts by biting fish and shrimp nets and some fishermen attempt to drive them away. Some fishermen consider this dolphin a threat to their activities. Bottlenosed dolphins are occasionally trapped accidentally in commercial fishing gear. In this way, a small number are lost in the eastern Pacific tuna seine fishery. The effect on the population of taking these animals off the southeast United States for display and research is not understood and could become a problem.
- Current research.** Several agencies and institutions conduct or support research on the bottlenosed dolphin. Included are the Office of Naval Research, National Institutes of Health, and the National Science Foundation. The University of Florida concentrates its research on general life history, intraspecific communication, and ecological studies. The Florida State Museum is studying systematics. Research in physiology, echolocation, anatomy, life history and the behavior of captive and wild individuals has been done at the Naval Undersea Centers in San Diego and Hawaii. Studies on vision are being carried out by scientists from the University of Miami. The Dolfinarium at Harderwijk, Netherlands, has recently conducted studies of the physiology and handling of these animals.
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- RISSEO'S DOLPHIN, GRAMPUS**
(*Grampus griseus*)
- Distribution and migration.** The Risso's dolphin ranges through all temperate and tropical seas. In western North America its northern limit is British Columbia, and it is sighted during the winter in central California. In the eastern United States it ranges from Massachusetts south. Strandings in Britain are most common during the summer. The species probably migrates to higher latitudes in warmer months.
- Abundance and trends.** Risso's dolphin was described in 1894 as "abundant" near Monterey Bay, California (Daugherty, A. E., 1972). The species is uncommon but not rare throughout most of its range. Over 200 of these animals were sighted in one group during 1972 off the Washington coast (Fiscus, Unpublished field notes, 1972).
- General biology.** Risso's dolphin grows to 3.6-4.0 m. Its skin commonly has long, narrow, white marks believed to be scars caused by others of the same species. Solitary animals or schools of 12 or less are generally observed. This species is frolicsome, and sometimes leaps clear of the water. Known foods are almost exclusively cephalopods.
- Ecological problems.** None known.
- Allocation problems.** None known.
- Current research.** None.

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WHITE-BEAKED DOLPHIN

(Lagenorhynchus albirostris)

Distribution and migration. The white-beaked dolphin inhabits the coastal waters of the North Atlantic Ocean from the Barents Sea and Davis Strait to France and Massachusetts. It is most common in the North Sea from the east coast of the United Kingdom to the Faroe Islands, and may winter in the southerly parts of the North Atlantic Ocean. It appears in Davis Strait in the spring and summer after the beluga and narwhal migrate north and leaves in autumn sometimes as late as November. It apparently ranges farther north into Arctic waters than its relative the white-sided dolphin.

Abundance and trends. This species is one of the more abundant of North Atlantic toothed whales. Schools of as many as 1,500 have been reported from the coast of Norway where it is attracted by herring (Fraser 1949).

Tomlin (1957) reports schools of several hundred and states that this species is taken commercially in Norway, but gives no statistics on the catch. He also mentions that it was once taken commercially in Davis Strait.

General biology. This gregarious species grows to 3.0 m; the calves are as long as 1.2 m when born. The mating period is long, but limited to the warmer half of the year. Most of the calves are born during midsummer. Food is mainly fish such as herring, cod, whiting, and capelin, but also crustaceans and mollusks such as hermit crabs, whelks, and squids.

Ecological problems. Strandings of schools of up to 30 animals have been reported.

Allocation problems. None known.

Current research. None.

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ATLANTIC WHITE-SIDED DOLPHIN

(Lagenorhynchus acutus)

Distribution and migration. The Atlantic white-sided dolphin ranges the coastal waters of the North Atlantic Ocean from the Barents Sea and Davis Strait south to France and Cape Cod.

Abundance and trends. The status of this species is unknown. According to Tomlin (1957), "this dolphin is taken only in summer in the waters of Norway; the animals are trapped in the fjords, which they enter in vast schools pursuing herring. The take may reach 1,500 individuals at a time."

General biology. This species grows to 3.0 m. The young are born mostly in midsummer and are about 1.0 m in length. It feeds mostly on pelagic and benthopelagic fish such as mackerel, salmonids, and herring, and some crustaceans and mollusks such as *Pagurus* and *Buccinum*. Schools in excess of 1,000 animals have been reported while they were feeding; groups of 10 to 50 are normally seen.

Ecological problems. Stranded schools of up to 30 have been reported.

Allocation problems. None known.

Current research. None.

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PACIFIC WHITE-SIDED DOLPHIN

(Lagenorhynchus obliquidens)

Distribution and migration. The Pacific white-sided dolphin ranges the northern North Pacific from the coast of Japan and Baja California northward. It is found year round off California and Washington and in Alaska and Kurile Island waters during the summer, but has not been reported from the Bering Sea. It frequents the waters of the continental shelf and slope but on occasion has been sighted in large schools in offshore waters.

Abundance and trends. Norris and Prescott (1961) report the species as common off southern California in inshore waters in winter and spring and offshore in summer and fall. According to sighting reports in the National Marine Fisheries Service files, Seattle, and by Pike and MacAskie (1969), this species may be the most abundant dolphin north of southern California. No estimate of the size of the population along the west coast of North America has been made.

Nishiwaki (1972) estimates the population in Japanese waters to be between 30 and 50 thousand. Klumov (1959) reports that the Pacific white-sided dolphin is one of the two most numerous dolphins found in the late summer and fall in the Kurile Islands area, and forms schools of up to several thousand animals.

A few of these animals are taken for display in ocean aquaria.

General biology. This species grows to 2.3 m, and weighs up to 181 kg. A male 1.2 m in length with milk in its stomach was taken off Washington. It probably breeds in late spring to autumn, with a gestation period of 10-12 months. Schools of thousands are seen, often together with common and right-whale dolphins. It is active day and night, frolics, follows ships, dashes across ships' bows, and occasionally jumps clear of the surface. It adapts well to captivity. This dolphin feeds primarily on cephalopods and small fish such as herring, sardine, anchovy, and saury.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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SARAWAK DOLPHIN

(Lagenodelphis hosei)

Distribution and migration. Only a single specimen of the Sarawak dolphin, from Borneo, was known to science until 25 of the mammals were taken in a tuna purse seine in the eastern tropical Pacific. Since then, it has been recorded from several widely separated localities in the Pacific and Indian Oceans: Durban, South Africa; near Sydney, Australia; Tokyo, Japan; and the Central Pacific south of Hawaii.

Abundance and trends. The animal is rare in collections and presumably not common in its habitat (Perrin et al., 1973).

General biology. Length at birth is approximately 1 m, and the adults are

about 2.5 m long. This dolphin feeds on deep living fishes and squids.

Ecological problems. None known.

Allocation problems. Loss of Sarawak dolphins in the tuna fishery is minor in terms of absolute numbers, but may be significant considering the apparent extreme rarity of the animal. Twenty-nine of thirty-four identified specimens have been taken in tuna seines.

Current research. None.

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SPOTTED DOLPHIN

(*Stenella attenuata*)

(*S. frontalis*)

(*S. graffmani*)

(*S. dubia*)

Distribution and migration. Knowledge of the spotted dolphins is scanty, and their taxonomy is confused, but two species probably exist. The taxonomy used here is provisional. One form is confined to warm waters of the Atlantic and probably is *Stenella plagiodon* Cope. This species, the Atlantic spotted dolphin, is discussed in a separate status report. The other apparent species occurs in all tropical waters of the world, including the Atlantic Ocean, and has been identified as belonging to the four above-listed nominal species. Taxonomists do not agree on the taxonomy. The two apparent species are different in basic color pattern but both have spots.

The spotted dolphin occurs in the Gulf Stream adjacent to the U.S. east coast and in the Gulf of Mexico. Nothing is known of its migrations. It has not been recorded from the U.S. Pacific Coast, but it is the primary cetacean species involved in the tuna fishery in the eastern tropical Pacific, from Cabo San Lucas to Peru and west to approximately long. 145° W. It occurs around the Hawaiian Islands and in the U.S. Trust Territory. The maximum recorded movement of a single animal is 1,300 miles (2,080 km) in 236 days.

Abundance and trends. Population estimates and trends in abundance are not available for these species.

General biology. Length at birth of the race involved in the tuna fishery is about 0.8 m. Adults of the various races are 1.6-2.6 m long. Considerable geographic variations exist in external size and shape, coloration, and skeletal structure, with pronounced differences between coastal and offshore subspecies in the eastern Pacific. It feeds on small mesopelagic and epipelagic fishes and squids. In the eastern tropical Pacific, this species commonly associates with the spinner porpoise in mixed aggregations of up to several thousand animals.

Ecological problems. None known.

Allocation problems. Because of their association with yellowfin tuna, many of these mammals are taken incidentally during tuna harvesting operations by fishermen from Canada, France, Japan, Mexico, Panama, United States, and other countries in coastal and international waters in the eastern tropical Pacific (ETP).

Current research. The National Marine Fisheries Service and the tuna industry are assessing the effects of fishing mortality and improving rescue methods and gear to eliminate losses associated with the tuna harvest. Other research includes systematic and ecological studies by P. J. H. van Bree at the Zoological Museum in Amsterdam, W. Dawbin at Sydney University, and E. D. Mitchell at the Arctic Biological Station of the Fisheries Research Board of Canada in Ste. Anne de Bellevue, Quebec.

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ATLANTIC SPOTTED DOLPHIN

(*Stenella plagiodon*)

Distribution and migration. The Atlantic spotted dolphin (exact taxonomic position not yet known) is probably confined to tropical and subtropical waters of the Atlantic Ocean. It occurs on the U.S. Gulf coast and off the east coast in Gulf Stream waters, and may be restricted to continental waters, being replaced in the West Indies by some other species in this genus (probably *Stenella frontalis*). Seasonal inshore-offshore migrations occur in Florida waters, and perhaps elsewhere in the Gulf of Mexico, with animals moving close to shore in late spring.

Abundance and trends. Population estimates have not been made for this species. The only known fishery for the species has taken 12 or fewer animals per year for display, however, these animals do not easily withstand handling and captivity. Thus, an increased fishery for display animals is not likely.

General biology. The newborn are about 0.8 m long, and the adults reach 2.0-2.2 m in length. Little is known of the life history of this species. Except for the annual spring migrations to near shore, this species is considered a mammal of the outer continental shelf or adjacent high seas. Spotted dolphins appear to feed primarily on squid in the wild, but they readily adapt to a fish diet in captivity. Newborn and young animals are not spotted, but progress through a series of color changes until the adults become spotted all over except for the ventral surface near the belly. This species is subject to infestations externally by barnacles and whale lice, internally by trematodes in the stomach, liver, and pancreas, and nematodes in the lungs and stomach. In captivity and in cold weather, these animals easily contract pneumonia.

Ecological problems. Little is known about the ecology of this dolphin, but because it normally lives well offshore, it seems likely that it is affected little by man.

Allocation problems. None known.

Current research. Some information on this species has been gathered incidental to studies by the Office of Naval Research on the bottlenosed dolphin. Most of the recent research has been on various aspects of sound production by this species. However, David K. and Melba C. Caldwell have long been gathering general biological information at the Marine Mammal Center of the Communication Sciences Laboratory of the University of Florida located at Marineland, Florida (near St. Augustine).

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SPINNER DOLPHIN

(*Stenella longirostris*)

Distribution and migration. The spinner dolphin inhabits tropical inshore and offshore waters around the world. It has been recorded from the Gulf of Mexico, around the Hawaiian and Line Islands, and U.S. Trust Territory, but not from the U.S. Pacific Coast. It is involved in the U.S. tuna fishery in the eastern tropical Pacific, from Cabo San Lucas to Peru and west to about long. 145° W. Little is known of its migrations. The maximum recorded movement of a single animal is 280 miles (448 km) in 396 days.

Abundance and trends. Population estimates and trends in abundance are not available for this species.

General biology. Length at birth is approximately 0.8 m, and the adults grow to 1.5-2.2 m. Pronounced geographical variations exist in external size and shape, coloration, and skeletal structure. In the eastern tropical Pacific, it commonly associates with the spotted porpoise in mixed aggregations of up to several thousand animals. The spinner dolphin feeds on small pelagic fishes and squids.

Ecological problems. None known.

Allocation problems. Because of its association with yellowfin tuna, this species is taken incidentally by fishermen from Canada, France, Japan, Mexico, Panama, United States, and other countries in coastal and international waters of the eastern tropical Pacific.

Current research. The National Marine Fisheries Service and the tuna fishing industry are assessing the effects

of fishing mortality and improving rescue methods and gear to eliminate losses associated with the tuna harvest. Other research includes systematics and ecological studies by P. J. H. van Bree at the Zoological Museum in Amsterdam, W. Dawbin at Sydney University, and E. D. Mitchell at the Arctic Biological Station of the Fisheries Research Board of Canada in Ste. Anne de Bellevue, Quebec; and ethological studies by K. S. Norris at the University of California at Santa Cruz.

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STRIPED DOLPHIN

(*Stenella coeruleoalba*)

Distribution and migration. The striped dolphin inhabits temperate and tropical waters around the world, and has been recorded from both U.S. coasts. Nothing is known about the movements of striped dolphins in waters contiguous to the United States.

Abundance and trends. Population estimates and information on trends are not available for the U.S. or eastern tropical Pacific populations. The Japanese currently take about 5,000 striped dolphins per year (Kasuya, 1972).

General biology. Biological studies have been carried out on the population off Japan. The mean length of the newborn is 1 m, and the gestation period is 12 months long. The mean age at sexual maturity in males and females is 9 years, at 2.2 and 2.1 m, respectively. Lactation lasts about 18 months, and the mean length of the reproductive cycle is about 3 years. Schools of striped dolphins segregate somewhat by age and sex.

Ecological problems. None known.

Allocation problems. The striped dolphin is involved in the tuna fishery to a very minor extent; schools of this mammal apparently do not usually associate with the tuna.

Current research. A federal program of research recently begun by Japan is expected to yield an estimate of population size in the northwestern Pacific Ocean.

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COMMON DOLPHIN, SADDLEBACK DOLPHIN (ATLANTIC COAST), WHITEBELLY PORPOISE (PACIFIC COAST)

(*Delphinus delphis*)

Distribution and migration. This species is world wide in distribution in temperate to tropical waters of from 12°-28° C. There may be more than one species, recognizable differences do exist between populations. In the Northwestern Atlantic Ocean, this mammal ranges from Newfoundland to the Caribbean Sea. In the northeastern Pacific Ocean, the primary distribution of this species is from the California-Oregon border to Costa Rica, but one stranded animal was found in British Columbia. Large populations occur off southern California (Santa Barbara to San Diego), the west coast of Baja California, Mexico (Cedros Island to Cape San Lucas), and Costa Rica. A relatively large population also occurs in, and may be resident of, the Gulf of California. In southern California waters *Delphinus* is present throughout the year but is most abundant from August to

January. A decrease in herd size during the spring and summer may be due primarily to the animals breaking up into small subgroups of 50 to 200 animals, and a general movement offshore and north.

Abundance and trends. The common dolphin is probably the most widespread and abundant delphinid. Herds of several thousand individuals have been reported. This species has been utilized in the Black, Mediterranean, and South China Seas, and off the east coast of Japan. Sleptsov (1940) estimated the Black Sea catch at 110,000 to 120,000 per year. Based on data from aerial surveys, Evans (pers. comm.) estimates a population of 10,000-15,000 in the limited area of the southern California continental borderland. The species has been displayed at Marineland of the Pacific and has been used in experiments and field studies by the National Marine Fisheries Service and the Department of the Navy.

General biology. The males grow to 2.6 m and are an average of 14 cm longer than females. The average individual of the northeastern Pacific Ocean is larger than that of the Black and Mediterranean Seas. The largest known specimen from the Black Sea was 212 cm, however, a male 259 cm long was taken from the northeastern Pacific Ocean. Males and females may segregate between mating seasons, especially when the latter are nursing calves or about to bear their young. The gestation period lasts 10-11 months with a post-parturition estrus. The young are 75-85 cm at birth. The young dolphin is weaned at about age 5-6 months (110-120 cm overall length), but may stay with the female up to 1 year. In the northeastern Pacific Ocean, this species appears to have two mating seasons (January-April and August-November), and two calving seasons (March-May and August-October). Herds containing 2,000 to 5,000 dolphins may form, but they appear to be made up of subgroups of 50 to 200 animals. This species is seldom found inside the 100-fathom line, but it frequents sea mounts, escarpments, and other prominent offshore features. The animal makes most of its dives in excess of 10 fathoms after sunset. The deepest dive recorded is 140 fathoms, but the average dive is to 30 fathoms. During feeding the animal usually stays under water for 2-3 minutes, but dives of 5 minutes have been recorded. This species is one of the fastest swimming cetaceans and has been clocked at a burst speed of 25-26 knots. Normal cruising speed is about 4-5 knots, with herds moving 40-50 nautical miles in 24 hours. It feeds mainly on anchovy, sprat, pelagic pipefish, and cephalopods in the Black Sea; whiting, horse mackerel, sardine, and hake in the Atlantic Ocean; and anchovy, myctophids, hake, and cephalopods in the northeastern Pacific Ocean.

Skin parasites are rare, but barnacles sometimes attach themselves to the trailing edge of the tail flukes. Remoras are also found on *Delphinus*, especially in tropical waters. Endoparasites include trematodes in the bile ducts, liver, intestine, and stomach; cestodes in the

intestine, blubber, and mesentery; nematodes in the intestine, lungs, nasal sacs, and middle ear cavity; and acanthocephalans in the intestine. The brains of 12 stranded specimens contained flukes and their eggs, which in most cases had caused abscesses and lesions.

Ecological problems. Large sharks and the killer whale are the only known natural predators.

Allocation problems. Because the northern anchovy and squid constitute the bulk of this mammal's diet in the northeastern Pacific Ocean, a substantial increase in the fishery for these resources could have a noticeable effect on the porpoise populations. *Delphinus* is the third most important species of porpoise taken incidentally in the eastern tropical Pacific tuna purse seine fishery. Mexican tuna purse seiners fishing for skipjack in the eastern tropical Pacific and the Gulf of California account for an unknown amount of incidental catch.

Current research. The National Marine Fisheries Service and the tuna fishing industry are assessing the effects of fishing mortality and improving rescue methods and gear to eliminate losses associated with the tuna harvest. Studies of behavior, distribution, and abundance have been conducted by the Naval Undersea Center, San Diego, California, since 1968. This research will terminate at the end of FY '73.

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NORTHERN RIGHT WHALE DOLPHIN

(*Lissodelphis borealis*)

Distribution and migration. Little is known about the distribution of the northern right whale dolphin other than that it inhabits temperate waters of the North Pacific Ocean.

In the western North Pacific Ocean, the northern right whale dolphin is found from Cape Inubo, Japan, north as far as Etorofu and Paramushir Islands, from where it apparently migrates southward in autumn or winter to near the southern

Kurils and is common, at least seasonally, in the northern Sea of Japan.

In the eastern North Pacific, this species has been reported from 30° to 50° north latitudes, though mostly from California. It occurs in the southern California continental borderland only from October or November to about April.

Though it is also oceanic, the right whale dolphin has been observed most frequently along the continental slope and near such features as sea mounts and banks. It has been seen close to the California Channel Islands and the mainland coast near San Diego and Palos Verdes. Two sightings and one specimen from the central Pacific suggest that the species may be continually distributed across the temperate North Pacific.

Abundance and trends. Groups of 200 are most common, but herds of an estimated size from 300 to 1,000 off Japan and up to 2,000 off southern California have been seen. Although the species was once thought to be uncommon, aerial surveys have revealed that it is abundant off the Pacific Coast of North America (Leatherwood, pers. comm.). This species is reportedly common in the northern Sea of Japan (Okada and Hanaoka, 1940), where it is harvested.

General biology. Newborn animals are about 0.6 m in length and grow to 3.1 m. The species is gregarious and is frequently reported in close association with the white-sided dolphin, with which it shares an extensive common range.

Right whale dolphins may reach speeds in excess of 25 knots in bursts. One entire herd averaged over 15 knots for 30 minutes while attempting escape from a helicopter. When approached, the animals may move away quietly or in a series of low angle leaps, each covering as much as 7 m. Individuals that are widely scattered when approached, bunch together tightly while fleeing from the cause of their disturbance.

Food is primarily squid, but also miscellaneous fishes, including myctophids and engraulids.

Parasites include trematodes and cestodes.

Ecological problems. If migrations are food dependent, decimation of food supplies in the southern end of its range could adversely affect the species.

Allocation problems. None known.

Current research. The only research known is an unfunded examination of all museum materials, collection of beached specimens, and survey of literature being conducted by J. S. Leatherwood, NUC, San Diego, R. F. Green, Ventura College, California, and W. A. Walker, Palos Verdes, California.

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BROAD-BEAKED DOLPHIN

(*Peponocephala electra*)

Distribution and migration. *Peponocephala* inhabits the tropical Atlantic, Indian, and Pacific Oceans.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Nishiwaki and Norris, 1966).

General biology. Unknown.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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PYGMY KILLER WHALE

(*Feresa attenuata*)

Distribution and migration. The pygmy killer whale probably inhabits most tropical waters.

Abundance and trends. The status of this species is unknown except that it is apparently rare (Caldwell and Caldwell, 1971). The species has been captured for exhibit in the oceanariums of Hawaii and Japan.

General biology. The adults reach about 2.4 m. In appearance they resemble a small false killer whale. They are aggressive in captivity.

Ecological problems. None known.

Allocation problems. This species has been reported taken incidentally to a very minor extent in the yellowfin tuna fishery in the eastern tropical Pacific.

Current research. None.

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FALSE KILLER WHALE

(*Pseudorca crassidens*)

Distribution and migration. The false killer whale ranges through all temperate and tropical seas. It is an oceanic form, found on the Atlantic side of the United States from North Carolina south, and on the Pacific side from the Aleutian Islands south.

Abundance and trends. This species is uncommon throughout most of its range. It is seldom caught in the Japanese small whale fishery but is common on the Pacific side of Honshu (Ohsumi, 1972).

General biology. The males grow to 6.1 m and the females to 4.9 m; adult animals weigh up to 1,360 kg. Mating appears to be over a protracted period, with young born at about 1.8 m. False killer whales are found in schools of both sexes and all ages. They have been seen eating dolphinfish (mahi-mahi) off Hawaii.

Ecological problems. Schools of up to 835 of these animals have stranded.

Allocation problems. The Japanese state that a toothed whale (shachi), which may or may not be the false killer whale, does much damage to their long-line tuna industry by feeding on hooked fish.

Current research. None.

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COMMON PILOT WHALE, POTHEAD, BLACKFISH

(*Globicephala melaena*)

Distribution and migration. This pilot whale inhabits the North Atlantic Ocean south to Virginia and the Mediterranean. It is a schooling mammal and appears regularly off the Canadian and United States coasts. It generally favors pelagic regions, but often moves close to shore in search of food.

Abundance and trends. The status of this species is unknown. A total of 3,000 to 4,000 was killed annually in local Newfoundland fisheries up to the early 1950's (Sergeant, 1962), but only a few have been taken in recent years. About 177,000 were taken in the Faroe Islands

from 1584 to 1883 (Tomlin, 1957) and several hundred per year are still being harvested there and in Norway.

General biology. The adults grow to about 6.5 m; females are usually mature at age 6 to 7 years and males at about age 12. Calves are about 1.8 m long at birth, in July to August, although full-term fetuses have been found year round. Cows probably bear calves every 3 years, the gestation period is about 16 months, and lactation lasts about 2 years. Pilot whales are gregarious, and occur in schools of hundreds and thousands. They have a distinct social organization, however, the sex ratio is not always equal in stranded groups. They are believed polygamous by some, with bachelor males sometimes forming separate schools. They travel in tight schools when not feeding, and disperse into scattered groups when on feeding grounds. Captive pilot whales feed at night and sleep days. They have a top swimming speed of over 25 mph, and a longevity of about 50 years. They feed almost exclusively on squids, but also eat small fish such as clupeids and gadids. Sergeant estimates food intake per year at about 11.5 times the weight of the animal.

Ecological problems. Whole schools sometimes strand.

Allocation problems. None known.

Current research. None.

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SHORT-FINNED PILOT WHALE

(*Globicephala macrorhyncha*)

Distribution and migration. In the North Atlantic Ocean, this pilot whale ranges north to New Jersey and Madeira. In the North Pacific Ocean it is found from Japan and the Aleutian Islands south to at least northern Brazil and Dakar, Senegal, and probably Peru. It is an oceanic species with a very wide range. Schools of pilot whales appear regularly off U.S. coasts. It generally favors offshore waters, but often moves close to land in search of food. Greatest numbers are seen in the eastern North Pacific in winter, fewer in summer.

Abundance and trends. The status of this species is unknown except that it is fairly abundant around the California Channel Islands (Norris and Prescott, 1961). The population of pilot whales around the Channel Islands has been fished for live specimens to supply U.S. oceanaria since about 1955. Many pilot whales are taken in the Japanese small-whale fishery. This species is also taken in the lesser Antilles.

General biology. The adults grow to 4.6-6.7 m. Little work has been done on this species, but indications are that the general biology is similar to *G. melaena*.

Ecological problems. Schools of this species often strand.

Allocation problems. None known.

Current research. The taxonomy of Pacific *Globicephala* is being studied by R. L. Brownell and D. K. Caldwell in the United States, and T. Kasuya and M. Nishiwaki in Japan. The U.S. Navy is studying the behavior and distribution of the pilot whale.

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KILLER WHALE

(*Orcinus orca*)

Distribution and migration. The killer whale is worldwide and ranges north and south to polar ice. It is more common in cooler waters, and in more productive coastal areas. The Strait of Georgia in British Columbia, Prince William Sound in Alaska, and Puget Sound in Washington State are areas of concentration. Migratory habits are probably dependent on food supply, and killer whales are most numerous in Puget Sound in November and late summer. In Japan, most of these mammals are taken from April to November, with the greatest number from August to November. In the Norway fishery, killer whales seem dependent on distribution and migration of herring, capelin, and cod.

Abundance and trends. Authoritative estimates of the world population are not available. A limited cooperative effort of the Fisheries Research Board of Canada and the Washington State Department of Game primarily in the inside waters of Washington and British Columbia gave counts of 459 killer whales in 1971, 255 in 1972, and 249 in 1973. About 66 individuals have been removed from inside waters of British Columbia and northern Washington State during the past 7 years for display by marine aquariums. An additional nine were killed during U.S. capture operations, mostly during the early years. The number of killer whales killed in Canadian capture operations is not known. The Japanese fishery took 567 killer whales from the Okhotsk Sea to south of Japan from 1948 to 1957. Norwegians harvested 1,417 in the northeastern North Atlantic between 1938 and 1967.

General biology. Females grow to 7.0 m and males to 8.2 m. Males weigh up to about 8,000 kg, with about 4,000 kg the apparent limit for females. An adult male dorsal fin may be 1.8 m high, considerably higher than that of the female. Breeding appears to occur year-round although it may peak in May to July; gestation lasts 13 to 16 months. Newborn

calves are about 2.4 m long and weigh about 180 kg. In the Northern Hemisphere births occur mostly in autumn. Killer whales usually are found in groups of about 10 to 100 or even more. The males are probably polygamous. Killer whales hunt successfully in packs, but there are no records of attacks on people. The stomach contents of 364 killer whales taken off Japan from 1948 to 1957 included (in order of occurrence): fish (mostly cod, flatfish, and sardines), squid, octopus, dolphins, whales, and seals. Salmon constituted 1.6% of all stomach contents. Soviets in the Kurils recorded "fish and squid" but no marine mammal remains in 10 animals. Of 10 killer whales examined by the National Marine Fisheries Service, Seattle, 6 adult males had only marine mammal remains except for 1 squid; 1 adult female and 1 immature male had only fish remains.

The most common diseases are those caused by wearing of tooth crowns and denudation of the pulp cavity, which results in abscesses. Other diseases include bony outgrowths and bone tumors. Parasites include nematodes, cestodes, and trematodes. One Puget Sound killer whale stomach contained 5,000 nematodes.

Ecological problems. This species has no natural enemies except man. Stranding probably is the greatest nonhuman hazard.

Allocation problems. Public interest in killer whales was stimulated by the first live capture in 1964 in British Columbia. Growing public interest is increasing in killer whales as a recreational resource, especially in Puget Sound. The animals are commercially valuable in the United States for display in oceanariums. U.S., Japanese, and Canadian fishermen contend that the whales cause gear damage and interfere with salmon and tuna long-line fisheries. Many consider killer whales an important predator of salmon and herring; others defend them as the natural enemy of other fish eaters, including harbor seals and sea lions. Some sport salmon fishermen claim their presence spoils fishing.

Current research. The National Marine Fisheries Service and the Fisheries Research Board of Canada are studying killer whale distribution in western U.S. and Canadian waters.

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HARBOR PORPOISE

(*Phocoena sinus* and *Phocoena phocoena*)

Distribution and migration. There are four recognized species of harbor por-

poise, but only the two found in the waters of the Northern Hemisphere are discussed here. One species, *Phocoena sinus*, is apparently restricted in range to the Gulf of California. *P. phocoena* is circumpolar in distribution in ice-free seas, ranging south in the Atlantic Ocean to the Delaware River and the Mediterranean Sea. In the Pacific Ocean it is found south to Japan and southern California, although it is not abundant south of San Francisco.

The harbor porpoise is an inshore species, frequenting coastal waters, the mouths of large rivers, harbors, and bays, and sometimes ascending freshwater streams.

Abundance and trends. The harbor porpoise is especially abundant in the waters of Washington (Scheffer and Slipp, 1948) and western Canada (Pike and MacAskie, 1969). Tomlin (1957) reports single catches of 2,000 to 2,500 harbor porpoises at the time they migrate between the Sea of Azov and the Black Sea.

Mohl-Hansen (1954) reporting on biological investigations of the harbor porpoise in Danish waters examined 188 harbor porpoises in 1941-42, 230 in 1942-43, and 212 in 1943-44, so at least those numbers were commercially harvested in Denmark during those years. He also states that these harbor porpoises were from the Baltic Sea populations.

General biology. This species grows to 1.8 m, and weighs up to 72 kg. The females are sexually mature at about age 3-4 years. Newborn calves are half the length of the mother. They breed annually during late spring and summer. The gestation period is 10-11 months, and the calves nurse up to 8 months. Harbor porpoises travel in pairs and schools of up to 200 or more, especially on the feeding grounds. This species is less playful than most dolphins or porpoises; they seldom jump out of the water, and usually ignore passing boats. Schools containing all "bachelors" are common; the females stay in groups of mixed sex. Usually they swim just below the surface, rising about 4 times per minute to breathe when not feeding. They feed mainly on bottom fishes such as cod, herring fry, flounder, and occasionally on invertebrates such as squids, clams, and crustaceans.

Ecological problems. These animals occasionally strand for unknown reasons, and because of their feeding habits, a few tend to get trapped in fishermen's nets.

Allocation problems. None known.

Current research. None.

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DALL PORPOISE

(*Phocoenoides dalli*)

Distribution and migration. The Dall porpoise inhabits the North Pacific Ocean from Japan and southern California to the Bering and Okhotsk Seas. It appears to migrate twice yearly off the coasts of Japan and California, and may move inshore in winter and offshore in summer. The Dall porpoise is a regular winter visitor to southern California, and has been observed in the Channel Islands area from October to summer. It has been seen off San Francisco Bay from March to October, off Monterey Bay throughout the year, and may be present year round where food is adequate.

Abundance and trends. The Dall porpoise is one of the most abundant small cetaceans found in Alaskan inside waters (U.S. Forest Service) and in British Columbia waters (Pike and MacAskie, 1969). It is commonly seen off northern California (W. J. Houck, pers. comm.). Mizue and Yoshida (1965) report an annual accidental catch of more than 10,000 Dall porpoise in the Japanese high seas salmon gillnet fishery in the northern North Pacific and Bering Sea west of 175° W longitude. They also state that the Dall porpoise is abundant east of 175° W longitude but that the Japanese fishing fleet does not operate east of the boundary. The Marine Mammal Division has many records of Dall porpoise ranging from the Bering Sea and the eastern Aleutian Islands south to latitude 34° in California waters (MMD files, Marine mammal observations, 1958-72).

General biology. The Dall porpoise grows to about 2.2 m and a weight of about 218 kg. It and the killer whale have the most conspicuous color patterns among cetaceans. Calves are born in the spring and summer, and young are observed in August. These animals are usually found in groups of 2 to 20, but occasionally 200 or more are seen on favorable feeding grounds. It plays in the bow waves of ships, and is among the swiftest of all marine mammals. This mammal consumes squid and such fish as saury, hake, herring, jack mackerel, and bathypelagic and deep-water benthic fish.

Ecological problems. None known.

Allocation problems. None known.

Current research. W. J. Houck is studying *P. dalli* and *P. truel* at Humboldt State College in California, and M. Nishiwaki is studying these species in Japan. G. V. Morejohn is studying feeding habits, migration, behavior, and morphology of the species at the Moss Landing Marine Station, California.

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BELUGA (BELUKHA), WHITE WHALE

(*Delphinapterus leucas*)

Distribution and migration. The beluga inhabits the Arctic Ocean and adjacent seas, including the Okhotsk and Bering Seas, Cook Inlet, Hudson Bay, and Gulf of St. Lawrence. Belugas ascend several hundred miles up the larger rivers of Siberia and Alaska. Populations of white whales from different areas show marked size differences throughout the Arctic. Three races are recognized: *doro-feevi* from the Okhotsk Sea; *marisalt* in the Barents and White Seas; and *leucas* in the rest of the range. In the Pacific belugas are common along the Alaska coast as far south as Bristol Bay and an apparently separate population is found in Cook Inlet.

Abundance and trends. In Alaska belugas have been used as a source of muktuk, meat, and oil for both people and dogs by residents of villages on the Bering Sea and Arctic Ocean coasts and along rivers that belugas periodically ascend. Belugas also provide a significant amount of fresh and preserved food for native peoples in the Mackenzie River delta region and Baffin Island, where beluga hunting is culturally and economically important (Brodie, pers. comm.). In recent years the demand for beluga products has been reduced in the Arctic. Lensink (1961) estimated an annual harvest of 400 to 500 belugas in Alaska. In Bristol Bay only a few belugas are now taken, and the estimated annual harvests of the Bering Sea-Arctic Ocean coasts is 150 to 300 (Alaska Department of Fish and Game, 1973). The Cook Inlet, Alaska, population is estimated at 300 to 500. In Bristol Bay the population is estimated at 1,000 to 1,500 and is considered stable. The size of the beluga population in Alaska north of

Bristol Bay is unknown, but is much greater than that residing in Bristol Bay (op. cit.). Sergeant (1962) states that from 1948 to 1960 the catch of belugas in the Canadian arctic averaged 1,200 annually. The present catch in Canada averages 500 animals per year (Brodie, pers. comm.). In the late 1950's the annual catch of belugas averaged 3,000-4,000 in the U.S.S.R., 500-800 in Greenland, and 100-200 from Spitsbergen (Kleinberg et al., 1964).

General biology. Males grow to 4.6 m and the females to 4.0 m in the Beaufort Sea, and to 5.2 m and 4.6 m, respectively, in the Soviet arctic. The beluga is polygamous, breeds in the spring, has a gestation period of 13-14 months, and newborn are about 1.5 m in length. Lactation lasts about 2 years, resulting in a 3-year reproductive cycle. They are gregarious and travel in groups of 2 or 3 to hundreds. Belugas feed from mid-water to the bottom, with a diet including fish such as salmon, capelin, cisco, pike, char, cod, squid, crustaceans, and nereid worms. They frequently occur in shallow areas with a bottom of mud, sand, and stones. The beluga produces high-pitched whistles and squeals, ticking and clucking sounds, and have been given the name "sea-canary." Animals break the ice with their backs to reach air for breathing.

Parasites include nematodes in the respiratory organs, ears, circulatory system, intestine, and urogenital system; trematodes are found in the intestine, as well as cestodes and acanthocephalans. Helminths are apparently one cause of mortality.

Ecological problems. Known natural enemies include the killer whale and polar bear.

Allocation problems. These mammals take salmon at the mouths of large Alaskan rivers, and are important predators of salmon smolt in Bristol Bay, Alaska. Recorded killer whale sounds have been used experimentally to prevent beluga predation in the Kvichak River.

Current research. Research on the beluga is being conducted by the Fisheries Research Board of Canada.

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NARWHAL

(*Monodon monoceros*)

Distribution and migration. The narwhal is the most northern cetacean and occurs in north polar seas, including the entire Arctic Ocean, but is mainly found in the North Atlantic Ocean region. It is most common in northwestern Greenland and the eastern Canadian arctic, particularly Jones and Lancaster Sounds, the north and east coasts of Baffin Island, Repulse Bay, and occasionally in northern Foxe Basin and Hudson Strait. Narwhals also occur near Franz Josef Land and Novaya Zemlya. They are rare in the Laptev, East Siberian, Chukchi, and Beaufort Seas.

Abundance and trends. The Canadian population is estimated at about 10,000, with smaller numbers in northwestern Greenland (Mansfield, pers. comm.). Numbers elsewhere are unknown. Extremely rare occurrences in Great Britain (4) and Holland (1) are documented. Narwhals are hunted in Greenland and the eastern Canadian arctic for dog food, mukluk, sinew, and ivory.

General biology. Narwhals grow to 4.6 m in length and adult males to 1,550 kg. The young are born in May and June at about 1.5 m in length. Males have a tusk (canine tooth) which is usually the left one and occasionally both. Sometimes females also have a tusk. The tusk grows as a spiraled rod to 2.0 m in length, and distinguishes narwhals from all other whales. Gestation appears to last about 14 months, since well-developed fetuses are present in July and August. Usually only one calf is produced. Narwhals are gregarious, forming schools of up to one or two thousand, made up of small groups of up to about 20 (Mansfield, pers. comm.). Speculations on the tusk function are numerous and the tusk may only be a secondary sexual characteristic. Food of the narwhal consist mainly of cephalopods, polar cod, and Greenland turbot.

Ectoparasitic whale lice occur in cuts, skinfolds, and around the base of the tusk. Endoparasitic nematodes occur occasionally in the stomach, and frequently in basiscranial sinuses.

Ecological problems. Narwhals are occasionally trapped in large numbers by rapid freeze-up. In such situations, Greenlanders may kill entire groups of these mammals. Although it is not adapted to drift ice areas, the killer whale probably occurs there and may be a natural enemy of the narwhal.

Allocation problems. None known.

Current research. The narwhal is being studied by the Fisheries Research Board of Canada.

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Sperm Whale

(*Physeter catodon*)

Distribution and migration. The sperm whale is nearly world wide in distribution except for the pack ice of the polar regions. Females and immature animals are generally found between 40° S and 50° N latitudes. Sperm whales appear to migrate north during the northern summer and south during the northern winter. In the North Pacific, male sperm whales are found as far north as the Bering and Okhotsk Seas; in the North Atlantic they move into Davis Strait and near Spitzbergen.

Abundance and trends. Information on this section is from the annual reports of the International Whaling Commission (1972, In press) and from recent reports of the Bureau of International Whaling Statistics. Stocks available for commercial harvest are estimated at about 70,000 males and 184,000 females for the North Pacific and 128,000 males and 295,000 females for the southern oceans. Estimates of the number of immature animals are not available. The Northwest Atlantic has an estimated total stock of all ages of about 22,000. The sperm whale is currently the most important species of the world whaling industry. Stocks in most areas are above maximum sustainable yield levels.

Catches of sperm whales in recent seasons have been:

Season/North Pacific	Atlantic	Southern oceans, pelagic ¹	Southern land stations
1969: 11,329 males..... 3,605 females	2,640	5,390	4,011
1970: 11,236 males..... 3,579 females	649	5,891	4,135
1971: 8,295 males..... 2,595 females	558	7,335	4,498
1972: 4,032 males..... 2,291 females	117	8,172	2,659

¹ Southern oceans catches are for the seasons 1966-70, 1970-71, 1971-72, 1972-73, respectively.

² All catch data except North Pacific include males and females.

General biology. The sperm whale's large squarish head is distinctive because it bears a tank-like "case" containing spermaceti. The lower jaw is long and narrow, and has about 25 pairs of teeth. Females reach 11.6 m in body length,

males 16.8 m. This species dives to at least about 1,000 m, can remain submerged for about an hour, and feeds mainly on large squid. It also consumes significant quantities of octopuses and demersal and mesopelagic fishes. Females and juveniles of both sexes form schools of 10-50 animals, averaging about 25. Younger, sexually mature males (ca. 11.0-13.4 m, age 15-25 years) form "bachelor" schools usually containing not more than 10 animals. Older males (13.7 m, 22-27 years) are usually solitary except when with schools of females for breeding for about 5 months in the spring and early summer. The females mature sexually at about age 8 to 11 years when body length is about 8.5 to 9.1 m, physically at 25 to 30 years and a body length of 11.0 m. Males are not sexually mature until about 19 years and 11.9 m, and are not "socially" mature until about age 25 years. Growth of males continues until they are 45 to 60 years old, and about 15.5 m long. The female bears a calf (about 4.0 m) once every 3 to 5 years. Gestation lasts 14-15 months, and the calf nurses 1-2 years and is weaned at about 6.7 m long.

Ecological problems. None known.

Allocation problems. None known.

Current research. The National Marine Fisheries Service is studying the life history of the sperm whale. Other organizations carrying out research on this species are the Japanese Whales Research Institute and Japanese Far Seas Fisheries Research Laboratory (North Pacific and Antarctic), Fisheries Research Board of Canada (North Atlantic), British National Institute of Oceanography (South Africa and western South America), South African Division of Sea Fisheries (South Africa), Australian Commonwealth Scientific and Industrial Research Organization (Australia), the University of Chile (Chile), the Marine Institute of Peru (Peru), and the Marine Department of New Zealand (New Zealand).

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PYGMY SPERM WHALE

(*Kogia breviceps*)

Distribution and migration. The pygmy sperm whale occurs in all the warmer seas of the world. In the Pacific Ocean it ranges north to Washington and Japan; in the Atlantic Ocean it ranges north to Nova Scotia and the Netherlands.

Abundance and trends. The status of this species is unknown other than the fact that it is apparently rather rare. There are many more records of stranding than there are for *Kogia simus*, the dwarf sperm whale (C. O. Handley, Jr., pers. comm.). This species is occasionally taken in the Japanese small-whale fishery (Yamada, 1954).

General biology. Adult pygmy sperm whales are 2.7 to 3.4 m long. Their dorsal fin is low and posterior to the center of the back. This species was long confused with the dwarf sperm whale, and the following composite statement is based on both species. They are usually solitary or in small pods. They feed mostly on squid but also take pelagic crustaceans such as shrimps and giant mysids. Females simultaneously pregnant and lactating have been found, suggesting that they may bear a calf 2 years in succession.

Parasites include tapeworm cysts in the blubber, roundworms in the stomach, and giant kidney worms.

Ecological problems. None known.

Allocation problems. None known.

Current research. D. K. Caldwell and M. C. Caldwell have been gathering data on the life history in Florida (D. K. Caldwell, pers. comm., 1974). D. K. Caldwell, M. C. Caldwell, and C. O. Handley, Jr. have been working on the distribution (seasonal as well as geographical) in southeastern U.S. (Caldwell, pers. comm., 1974).

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DWARF SPERM WHALE

(*Kogia simus*)

Distribution and migration. The dwarf sperm whale apparently has a discontinuous distribution around the world. It has been found in the seas adjacent to South Africa, India, Ceylon, Japan, Hawaii, South Australia, and the west and east coasts of the United States. On the west coast it has been recorded only from Cabo San Lazaro, Baja California, and San Luis Obispo County, California. On the east coast it ranges from Cape Henry, Virginia, south and west to Texas.

Abundance and trends. The status of this species is unknown other than the fact that it is apparently rather rare over much of its range. However, it strands rather frequently on the southeast coast of the United States and is taken in the Japanese small-whale fishery (Yamada, 1954).

General biology. Adult dwarf sperm whales are 2.1 to 2.7 m long. Their dorsal fin is high and near the center of the back. This species was long confused with the pygmy sperm whale, and the following is a composite statement based on both species. They are usually solitary or in small pods. They feed mostly on squid but also take pelagic crustaceans such as shrimps and giant mysids. Females simultaneously pregnant and lactating have been found, suggesting that they may bear a calf 2 years in succession.

Parasites include tapeworm cysts in the blubber, roundworms in the stomach, and giant kidney worms.

Ecological problems. None known.

Allocation problems. None known.

Current research. D. K. Caldwell and M. C. Caldwell have been gathering data on the life history in Florida (D. K. Caldwell, pers. comm., 1974). D. K. Caldwell, M. C. Caldwell, and C. O. Handley, Jr. have been working on the distribution (seasonal as well as geographical) in southeastern U.S. (Caldwell, pers. comm., 1974).

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NORTH SEA BEAKED WHALE

(*Mesoplodon bidens*)

Distribution and migration. The North Sea beaked whale ranges mostly from the western Baltic Sea and central Norway south to the Bay of Biscay. It has been recorded in the western North Atlantic Ocean from Newfoundland and Massachusetts. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (More, 1966).

General biology. This species is the only one of its genus for which even rudimentary life history data are available. These beaked whales attain a maximum length of 5.5 m for males and 4.9 m for females. Mating and birth usually take place in late winter and spring. The gestation period is about 1 year. At birth the calf is between 1.8 and 2.1 m long, nurses for about 1 year, and at weaning is probably about 3.0 m long.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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ANTILLEAN BEAKED WHALE

(*Mesoplodon europaeus*)

Distribution and migration. The Antillean beaked whale ranges from Trinidad, Jamaica, and the Gulf of Mexico, north to Long Island, New York. One record for the English Channel has been obtained. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Moore, 1966).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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TRUE'S BEAKED WHALE

(*Mesoplodon mirus*)

Distribution and migration. The True's beaked whale has been found in the western North Atlantic Ocean from Nova Scotia south to northern Florida, and in the eastern North Atlantic Ocean from the Outer Hebrides south along the west

coast of Ireland. There is another population off the coast of South Africa. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Moore, 1966; 1968).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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BERING SEA BEAKED WHALE

(*Mesoplodon stejnegeri*)

Distribution and migration. The Bering Sea beaked whale is endemic to the North Pacific Ocean. It ranges from the Commander and Pribilof Islands, Bristol Bay, and the northern Gulf of Alaska south to the Sea of Japan on the western side and Oregon on the eastern side. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Moore, 1966; 1968).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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Moore, J. C. 1963. Recognizing certain species of beaked whales of the Pacific Ocean. *Amer. Midl. Natur.* 70(2): 396-428.

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ARCH-BEAKED WHALE

(*Mesoplodon carlhubbsi*)

Distribution and migration. The arch-beaked whale has been recorded only in the North Pacific Ocean, from the Sanriku coast of Hokkaido on the western side and from British Columbia south to southern California on the eastern side. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Moore, 1966; 1968).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

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GINKGO-TOOTHED WHALE

(*Mesoplodon ginkgodens*)

Distribution and migration. The ginkgo-toothed whale has been recorded from Ceylon, in the western North Pacific Ocean from Taiwan to the Sanriku coast of Hokkaido, and in the eastern North Pacific Ocean at Del Mar in southern California. Its migrations are unknown.

Abundance and trends. The status of this species is unknown, except that it may not be so rare in the western part of the North Pacific as once thought (Nishiwaki et al., 1972).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None. Present knowledge is based on opportunistic examination of specimens.

REFERENCES

Moore, J. C., and R. M. Gilmore. 1965. A beaked whale new to the western hemisphere. *Nature*, 205(4977): 1239-1240.

Nishiwaki, M., and T. Kamiya. 1958. A beaked whale stranded at Oiso Beach, Japan. *Sci. Rep. Whales Res. Inst.*, 13: 53-83.

Nishiwaki, M., T. Kasuya, K. Kureha, and N. Oguro. 1972. Further comments on *Mesoplodon ginkgodens*. *Sci. Rep. Whales Res. Inst.* 24: 43-56.

DENSE-BEAKED WHALE

(*Mesoplodon densirostris*)

Distribution and migration. The dense-beaked whale is widely, but perhaps discontinuously, distributed in tropical and warm temperate waters around the world. In the North Pacific Ocean it has been recorded from Taiwan, Japan,

and Midway Island. In the North Atlantic Ocean it has been recorded from Nova Scotia south to the Bahamas on the western side, and from Madeira on the eastern side.

Abundance and trends. The status of this species is unknown, except that it is apparently rare (Besharse, 1971; Moore, 1966).

General biology. These whales are known mostly from stranded individuals, which suggest that they are usually solitary. Otherwise, nothing is known of their biology.

Ecological problems. None known.

Allocation problems. None known.

Current research. None.

REFERENCES

Besharse, J. C. 1971. Maturity and sexual dimorphism in the skull, mandible, and teeth of the beaked whale, *Mesoplodon densirostris*. *J. Mammal.* 52: 297-315.

Moore, J. C. 1966. Diagnoses and distributions of beaked whales of the genus *Mesoplodon* known from North American waters. P. 32-61 In K. S. Norris (ed.), Whales, dolphins, and porpoises. Univ. Calif. Press, Berkeley and Los Angeles.

GOOSE-BEAKED WHALE

(*Ziphius cavirostris*)

Distribution and migration. The goose-beaked whale is found in all oceans except Arctic and Antarctic waters. In the North Pacific Ocean it ranges north to Hokkaido, the Commander and Aleutian Islands, and the Queen Charlotte Islands. In the North Atlantic Ocean it ranges north to Cape Cod, Massachusetts, on the western side and the Shetland and Orkney Islands on the eastern side. Its migrations are not understood.

Abundance and trends. The status of this species is unknown. The goose-beaked whale is the most frequently observed ziphiid, at least in the eastern North Pacific Ocean, and throughout its range has been found stranded far more often than any other species of the family (Mitchell, 1968). Between 13 and 16 goose-beaked whales have been taken annually in the Japanese small-whale fishery during the past 5 years (Nishiwaki and Oguro, 1972).

General biology. The goose-beaked whale is distinguishable from other ziphiids by its relatively short beak, the dorsal profile of which forms an almost straight line with the steeply sloping forehead, and by its brown coloration; older males have snow-white heads. The maximum body length in both sexes is about 7.0 m. These whales usually travel in tight schools of up to about 10 individuals, but old males are often solitary. Their main foods are squids and deep-water fishes. Sexual maturity is attained at a length of about 5.5 m in both sexes.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on this species has been conducted incidentally to other studies in Japan by the Whales Research Institute and the Ocean Research Institute.

REFERENCES

Mitchell, E. 1968. Northeast Pacific stranding distribution and seasonality of Cuvier's beaked whale *Ziphius cavirostris*. Can. J. Zool., 46: 265-279.

GIANT BOTTLENOSE WHALE

(Berardius bairdi)

Distribution and migration. The giant bottlenose whale is endemic to the North Pacific Ocean, where it ranges from St. Matthew Island in the Bering Sea south to central Honshu on the western side and southern California on the eastern side. Its migrations are poorly known.

Abundance and trends. The status of this species is unknown except that it is uncommon but not rare. According to information taken from the Bureau of International Whaling Statistics, between 100 and 400 giant bottlenose whales have been taken annually in the Japanese small-whale fishery during the past 20 years.

General biology. This species is the largest of the beaked whales. Males attain a maximum length of 11.9 m and females 12.8 m. Their long narrow beak, bulging forehead, and size distinguish them from other species of beaked whales in the North Pacific Ocean. They usually travel in tight schools of up to 30 individuals. Their main foods are deep-water fishes and squids. Males attain sexual maturity at a length of about 10.0 m, and females at about 10.3 m. Sexual maturity is not attained earlier than age 3 years, and probably much later. Mating takes place mostly in February, and calves are born in December.

Ecological problems. None known.

Allocation problems. None known.

Current research. Research on this species has been conducted incidentally to other studies in Japan by the Whales Research Institute and the Ocean Research Institute; in California by the National Marine Fisheries Service; and in British Columbia by the Fisheries Research Board of Canada.

REFERENCES

Betesheva, E. I. 1960. Pitaniye kashalota (*Physeter catodon* L.) i berardiusa (*Berardius bairdi* Stejneger) v raione Kuril'skoi gryady. Trudy Vses. Gidrobiol. Obshch. 10: 227-234.

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Nishiwaki, M., and N. Oguro. 1971. Baird's beaked whales caught on the coast of Japan in recent 10 years. Sci. Rep. Whales Res. Inst., 23: 111-122.

Omura, H., K. Fujino, and S. Kimura. 1955. Beaked whales *Berardius bairdi* of Japan, with notes on *Ziphius cavirostris*. Sci. Rep. Whales Res. Inst., 10: 89-132.

NORTH ATLANTIC BOTTLENOSE WHALE

(Hyperoodon ampullatus)

Distribution and migration. This species of bottlenose whale is endemic to the colder waters of the North Atlantic Ocean. On the western side it ranges from Davis Strait south to Rhode Island;

on the eastern side it ranges from Novaya Zemlya south to the Azores and English Channel. It migrates south in the autumn and north in the spring.

Abundance and trends. The status of this species is unknown, except that it is fairly common in at least parts of its range. According to records from International Whaling Statistics, between 260 and 700 of these animals have been taken annually throughout the North Atlantic Ocean by the Norwegian small-whale fishery. A few individuals are sometimes taken by whalers operating from Nova Scotia and the Faeroe Islands.

General biology. The bottlenose whale is easily recognized by a conspicuous beak that is sharply demarked from the high bulging forehead which, in old males, becomes almost vertical and flattened in front and slightly overhangs the base of the beak. Bottlenose whales are black when young, turn brown when adult, and almost yellow with a white head when very old. Males attain a maximum length of 10.7 m, and females 9.7 m. They usually travel in small herds of 4 to 10, but the adult males are often by themselves. Their food appears to be mainly squids. Females attain sexual maturity when about 6.5 m long. The calves are born from early spring to early summer.

Ecological problems. None known.

Allocation problems. None known.

Current research. This species is being studied by the Statens Institutt for Hvalforskning, Oslo, Norway.

REFERENCES

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MARINE MAMMAL LAWS

Each marine mammal of U.S. concern is protected by one or more U.S. laws or acts, and the conservation of some species is at least partially assured by international treaty or law. A summary of the various laws, conventions, and commissions designed and enacted to protect marine mammals follows:

1. *Marine Mammal Protection Act of 1972.* A U.S. federal law that prohibits U.S. citizens from taking, harassing, or importing any marine mammal or its by-products into the United States, except when authorized to do so by special permit. Indians, Eskimos, and Aleuts of the North Pacific and Arctic Oceans can take

marine mammals for subsistence, and for creating and selling handicraft items and clothing as long as the stocks can support the harvest.

2. *Endangered Species Act of 1973.* This U.S. federal law, which became effective on December 28, 1973, provides for the protective measures and procedures necessary to bring endangered and threatened species to the point at which such species are no longer in danger of extinction. The protective measures include, among other things, prohibition of capturing or killing, or engaging in interstate or foreign commerce in any endangered species of fish and wildlife, except as authorized by a special permit. Certain types of taking for subsistence purposes in Alaska are also allowed. The Act also provides for implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

3. *International Whaling Convention.* The International Whaling Commission (IWC) was established under a convention signed in Washington, D.C. in December 1946. The membership includes all countries that catch significant numbers of whales except Spain, Portugal, Chile, Peru, and Brazil. The IWC is responsible for whale conservation worldwide. Since 1964, the IWC has acted to bring world whaling under control by prohibiting worldwide the taking of some species, sharply reducing the authorized catches of species in certain areas, establishing catch quotas by species, and implementing an international observer plan for policing quotas and regulations at land stations and on factory ships. The IWC appears to be extending its authority to cover all cetaceans and to implement regulations for threatened species. The IWC now regulates the harvest of fin, sei, Bryde's, minke, and sperm whales. A subcommittee of the IWC has been established on small cetaceans to review problems and improve data collection. The gray, bowhead, right, blue, and humpback whales are completely protected, except for some hunting by aboriginals.

4. *Convention on International Trade in Endangered Species of Wild Fauna and Flora.* When this convention becomes effective, it will provide additional protection for the following species: Appendix I—gray, blue, humpback, bowhead, and right whales, northern elephant seal, Ganges River dolphin, Caribbean and Mediterranean monk seals, dugong, and West Indian and South American manatees; Appendix II—southern fur seal, Galapagos fur seal, Juan Fernandez fur seal, southern elephant seal, dugong (Australian), and West African manatee.

5. *Interim Convention on North Pacific Fur Seals.* This Convention prohibits most citizens of Japan, Canada, the U.S.S.R., and the United States from taking northern fur seals. The exceptions are aboriginal Indians, Aleuts, and Eskimos, who may take them only at sea and by primitive methods. The Convention

also provides for intensive research on this species by the four countries. The economic utilization of northern fur seals on their breeding grounds is conducted by the respective governments and is regulated on a scientific basis.

6. *International Convention for the Northwest Atlantic Fisheries.* Under terms of a Convention signed in 1949, ICNAF is responsible for the investigation, protection, and conservation of the fisheries of the Northwest Atlantic in order to make possible the maintenance of a maximum sustained catch from these fisheries. The harp seal harvest is regulated by ICNAF, which imposes quotas for the taking of these mammals.

7. *International Convention for the Conservation of Antarctic Seals, 1972.* The purpose of this Convention is to safeguard all species of Antarctic seals and to ensure that, if commercial sealing begins on floating ice of the Southern Ocean, the killing of certain species will be prohibited and the taking of other species will be subject to strict limitations. Measures adopted under the Antarctic Treaty of 1959 provide only for the protection of seals and other animals around the shoreline of the Antarctic Continent, but not on floating ice. The Convention of 1972 may be applicable to any or all of the following seals: Southern elephant, leopard, Weddell, crab-eater, Ross, and southern fur seals.

8. *Canadian-Norwegian Agreement on Sealing.* On 22 December 1971, these two governments ratified an agreement on sealing and the conservation of seal stocks in the Northwest Atlantic. The agreement applies to the harp seal, but provision is made for extension to hooded and bearded seals and to the walrus.

9. *Miscellaneous regulations and agreements of some U.S. interest.*—a. *Harp seal.* The U.S.S.R. and Norway signed an agreement in 1958 entitled "Preservation of seals in the Greenland Sea." The agreement provides for the regulation of harp seal catches by these two nations. The U.S.S.R., however, has not hunted harp seals since 1965.

b. *Gray seal.* The U.S.S.R. has prohibited (since 1970) the hunting of gray seals for sport and by amateurs, but permits the taking of these animals for subsistence. Canada uses an 1886 law for authority in regulating the take of gray seals. England has prohibited the hunting of gray seals on the Farne Islands since 1932 and on Orkney Island since 1923. Norway has forbidden hunting at Sör Trondelag (since 1923). Finland and Sweden offer bonuses for gray seals taken.

c. *Hooded seal.* Canada and Norway prohibit the taking of hooded seals near Newfoundland before 10 March, near Jan Mayen Island before 13 March, in Denmark Strait from 15 June to 15 July, and in northern waters from 20 March to 5 May. The U.S.S.R. and Norway in 1958 agreed to prohibit the harvest of hooded seals near Jan Mayen Island before 13 March, and banned hunting in Denmark Strait.

d. *Beaded seal.* The U.S.S.R. has, since 1970, banned the commercial hunting of bearded seals from vessels, and regulates the take of this species by aborigines and the harvest from shore by others.

e. *Ribbon seal.* Since the 1960's, the U.S.S.R. has forbidden the hunting of ribbon seals at sea from 1 March to 1 September, and in 1970 stopped hunting by "amateurs."

f. *Ringed seal.* The U.S.S.R. banned sport hunting of *Pusa hispida hispida* beginning in 1970. Sport hunting of another subspecies (apparently accepted by the U.S.S.R. as *P. h. krascheninikovi*) was also banned by the U.S.S.R. in that year, local harvests were regulated, and hunting of the subspecies between 1 March and 1 September was prohibited. The U.S.S.R. has also, since 1970, prevented commercial hunting of *P. h. ochotensis* from vessels, and regulated the take of this subspecies by aborigines and the harvest from shore by others.

g. *Harbor seal.*—*Ice-dwelling populations.* The U.S.S.R. has prohibited sport hunting of these populations of the harbor seal since 1970, protects its rookeries from harassment and pollution, and regulates the harvest.

Land-dwelling populations. The U.S.S.R. has prohibited the sport hunting of these populations since 1970, and regulates the take of harbor seals from the White and Barents Seas.

h. *Northern sea lion.* The U.S.S.R. regulates the harvest of northern sea lions and protects its rookeries from harassment.

i. *Walrus.* In 1958, the U.S.S.R. and Norway agreed to ban the hunting of walrus except to satisfy local needs and those of expeditions.

j. *Guadalupe fur seal.* Mexico has safeguarded the breeding grounds of the Guadalupe fur seal on the Guadalupe Islands by making this island a wildlife refuge.

k. *South American fur seal.* The Uruguayan and Argentinian Governments protect the South American fur seal on land and out to 200 miles at sea. In addition, the Uruguayan Government regulates the harvest by protecting all female seals except the 1-year-olds, controlling take of pups by seasonal restrictions, and imposing quotas in some instances.

l. *South African fur seal.* The harvest of South African fur seals is largely a state enterprise in South Africa, however, the system includes one of control and leasing of rookeries to private contractors. The South West African Administration has not entered the harvesting business, but licenses private firms, restricts gear to be used, establishes closed seasons, and places limits on sex and condition of catch.

m. *Narwhal.* Canada allows its Eskimos to take five narwhals annually for personal use and issues permits to capture this mammal for exhibition.

n. *Killer whale.* Canada allows this species to be taken under a permit system.

PART III—APPENDICES

APPENDIX F.—Analysis of the economic hardship exemptions requested and actions taken

APPENDIX A—Final Regulations Governing the Taking and Importing of Marine Mammals: FEDERAL REGISTER reference, 39 FR 1851.

APPENDIX B—Amendment to the Final Regulations Governing the Taking and Importing of Marine Mammals: FEDERAL REGISTER reference, 39 FR 14348.

APPENDIX C—Proposed Rules—Incidental Taking in the Course of Tuna Purse-Seining Operations: FEDERAL REGISTER reference, 38 FR 31180.

APPENDIX D—Interim Rules—Incidental Taking in the Course of Tuna Purse-Seining Operations: FEDERAL REGISTER reference, 39 FR 2481.

APPENDIX E—Proposed Rules—Incidental Taking in the Course of Commercial Fishing Operations.

APPENDIX F—Analysis of Economic Hardship Exemption Applications.

APPENDIX G—FEDERAL REGISTER Notices: FEDERAL REGISTER references, 39 FR 26622; 38 FR 26623; 38 FR 28581; 38 FR 30901; and 38 FR 33784.

Applications received	Scientific research	Public display	Products ¹	Total
Number of applications submitted.....	19	22	19	60
Number of animals requested (total).....	649	226	125,716	126,591
Of these:				
To be maintained in captivity.....	22	226	506	754
To be taken and released.....	105	0	0	105
To be taken dead.....	76	0	70,000	70,076
To be killed in taking.....	424	0	55,210	55,634
To be killed in captivity.....	22	0	0	22
Action taken:				
Number of applications denied.....	0	6	15	21
Number of applications withdrawn.....	4	8	1	13
Number of applications—no action.....	1	1	1	3
Number of applications approved.....	14	7	2	23
Number of animals approved (total).....	489	116	50,580	51,185
Of these:				
To be maintained in captivity.....	8	116	0	124
To be taken and released.....	96	0	0	96
To be taken dead.....	26	0	50,500	50,526
To be killed in taking.....	349	0	80	429
To be killed in captivity.....	19	0	0	19
Number of animals taken under exemption (total).....	169	48	42,075	42,292
Of these:				
To be maintained in captivity.....	2	48	0	50
To be taken and released.....	12	0	0	12
To be taken dead.....	31	0	42,075	42,106
To be killed in taking.....	122	0	0	122
To be killed in captivity.....	2	0	0	2

¹ This category involves commercial or personal use of marine mammals and marine mammal products.

NUMBER OF MARINE MAMMALS INVOLVED IN ECONOMIC HARDSHIP EXEMPTIONS

Common name	Scientific name	Requested				Total granted	Total taken
		Taken and kept alive	Taken and released	Taken dead	Total		
South American sea lion.....	<i>Otaria flavescens</i>	4			4		
California sea lion.....	<i>Zalophus californianus</i>	591	2	79	672	65	45
Steller sea lion.....	<i>Eumetopias jubatus</i>	4		22,020	22,024	24	
South African fur seal.....	<i>Arctocephalus pusillus</i>			70,000	70,000	50,500	42,075
Northern fur seal.....	<i>Callorhinus ursinus</i>	3	9		12		
Pacific harbor seal.....	<i>Phoca vitulina richardii</i>	31	50	150	231	196	116
Northwest Atlantic harbor seal.....	<i>Phoca vitulina concolor</i>	12	20		32	25	5
Ice-breeding harbor seal.....	<i>Phoca vitulina largha</i>	5		20,260	20,265	155	1
Ringed seal.....	<i>Pusa hispida</i>	7		3,090	3,097	94	1
Gray seal.....	<i>Halichoerus grypus</i>	7			7	3	2
Libbon seal.....	<i>Histriophoca fasciata</i>	2		25	27	27	
Harp seal.....	<i>Pagophilus groenlandicus</i>			10,000	10,000		
Bearded seal.....	<i>Erignathus barbatus</i>	8		30	38	38	8
Northern elephant seal.....	<i>Miroganga angustirostris</i>	5			5	5	
Gray whale.....	<i>Eschrichtius robustus</i>		3		3	3	3
Atlantic bottlenosed dolphin.....	<i>Tursiops truncatus</i>	54			54	25	20
Pacific white-sided dolphin.....	<i>Lagenorhynchus obliquidens</i>	6		6	12	12	6
Dark dolphin.....	<i>Lagenorhynchus obscurus</i>		15		15	15	4
Spinner dolphin.....	<i>Stenella longirostris</i>	7			7		
False killer whale.....	<i>Pseudorca crassidens</i>	1			1		
Pilot whale.....	<i>Globicephala macrorhyncha</i>	12			12	11	1
Killer whale.....	<i>Orcinus orca</i>	13			13	4	
Harbor porpoise.....	<i>Phocoena phocoena</i>			30	30		4
Belukha whale.....	<i>Delphinapterus leucas</i>	4		25	29	4	4
Beaked whale.....	<i>Tasmacetus Sp.</i>			1	1	1	1
Total.....		776	105	125,710	126,591	51,207	42,292

SUMMARY OF ACTIONS TAKEN ON UNDUE ECONOMIC HARDSHIP EXEMPTIONS AS OF OCT. 21, 1973

Scientific research applications:	Action taken
Norris, University of California.....	Approved.
Winn, University of Rhode Island.....	Do.
Paulbitski, California State University.....	Do.
Richardson, Maine Department of Marine Resources.....	Do.
Buhler and Mate, Oregon State University.....	Do.
Handley, Smithsonian Institution.....	Do.
Stone, University of Texas.....	Do.
Hall, University of California.....	Do.
Knudson and Loughlin, California State University.....	Do.
Newby, University of Washington.....	Withdrawn.

Scientific research applications:

Elsner, Scripps Institute of Oceanography.....	Action taken
Vedros, Naval Biomedical Research Laboratory.....	Approved.
Brooks, Alaska Department of Fish and Game.....	Do.
Galster, University of Alaska.....	Do.
Miller, University of Alaska.....	Withdrawn.
Wuersig, State University of New York.....	Do.
Underwood, Naval Arctic Research Laboratory.....	Approved.
South, University of Missouri.....	No Action.
Kooyman, Scripps Institute of Oceanography.....	Withdrawn.

Public display applications:

Sea World, Inc., San Diego, Calif.....	Approved.
Seattle Marine Aquarium, Seattle, Wash.....	Withdrawn.

Scientific research applications:

Gulfarium, Fort Walton Beach, Fla.....	Action taken
Sea-Arama Marineworld, Galveston, Tex.....	Denied.
Black Hills Marineland, Inc., Rapid City, S. Dak.....	Approved.
Japanese Village, Buena Park, Calif.....	Do.
Detroit Zoological Park, Detroit, Mich.....	Denied.
San Diego Zoological Gardens, San Diego, Calif.....	Withdrawn.
Mystic MarineLife Aquarium, Mystic, Conn.....	Approved.
Henry Doorly Zoo, Omaha, Nebr.....	Do.
Fort Wayne Children's Zoological Gardens, Fort Wayne, Ind.....	Do.
Quinlan Marine Attractions, Lincolnton, N.C.....	Withdrawn.
The Aquarium, Depoe Bay, Oreg.....	Do.
	Denied.

NOTICES

Scientific research applications:

Bob's Seafood, Morro Bay, Calif	Action taken
Gianfuretti Salvatori, Dover, Pa	Withdrawn.
Undersea Gardens, Marina del Rey, Calif	Denied.
Aqualand, Inc., Bar Harbor, Maine	Do.
Theater of the Sea, Inc., Islamorada, Fla	Withdrawn.
Homosassa Springs, Inc., Homosassa Springs, Fla	No Action.
Louis Scarpuzzi Enterprises, Inc., Fort Myers, Fla	Withdrawn.
Sea Life, Inc., Waimanalo, Hawaii	Approved.
Dianna Wilson Allen, Donna Tex	Withdrawn.
	Denied.

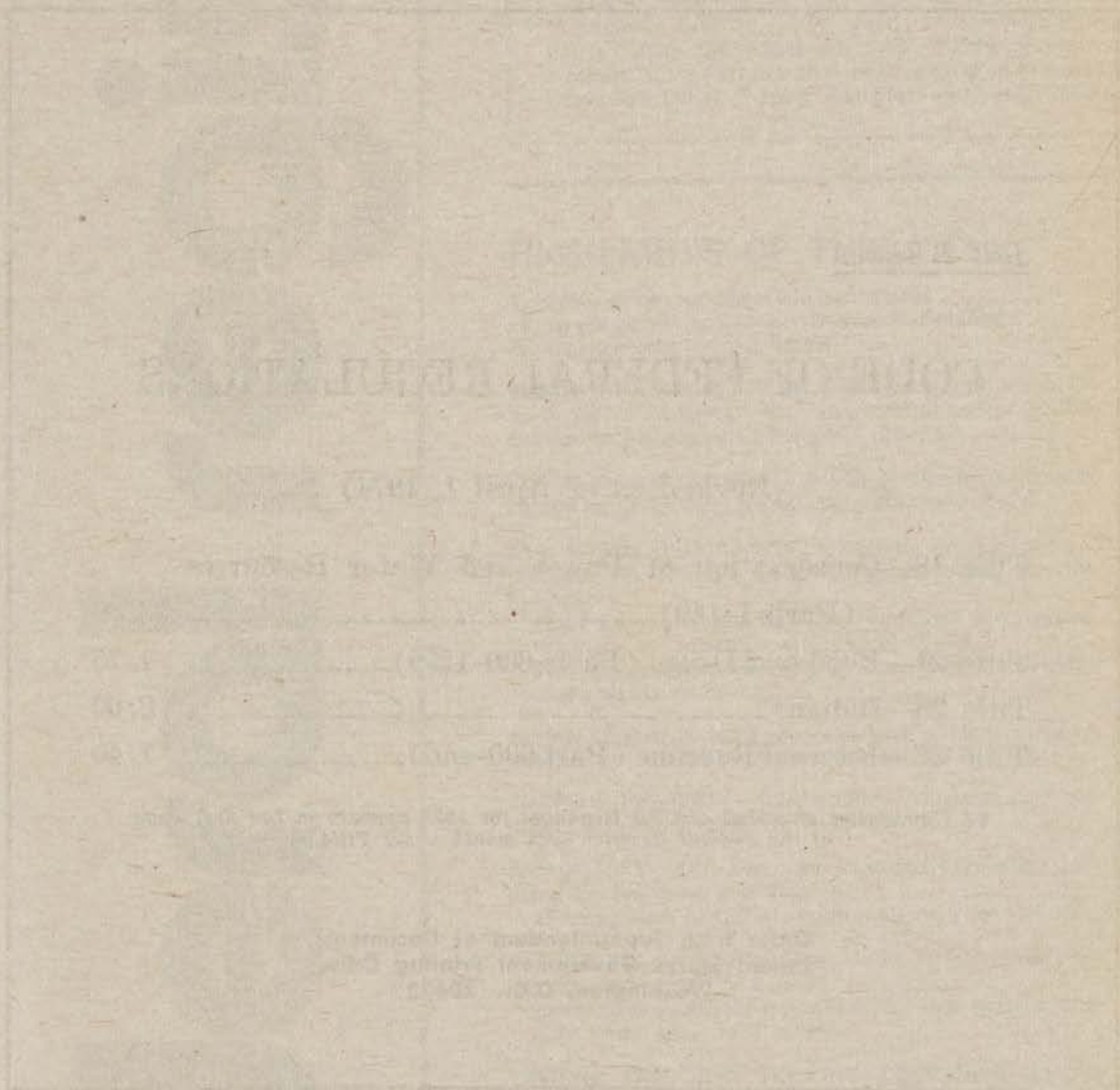
Personal and/or commercial use applications:

Sea Lions International, Santa Barbara, Calif	Action taken
Bergner International, New York, N.Y.	Denied.
Alaska Research Co., Seward, Alaska	Withdrawn.
Frontier Tanning Co., Anchorage, Alaska	Denied.
Global Sea Lions, Inc., Santa Barbara, Calif	Do.
Roy C. Randall, Port Williams, Alaska	Do.
William Nietupski, Kodiak, Alaska	Do.
Andrew Nault, Kodiak, Alaska	Do.
Jerry Richmond, Old Harbor, Alaska	Do.
Kenneth Sellers, Anchorage, Alaska	Do.

Personal and/or commercial use applications:

Joe D. Mankins, Port Heiden, Alaska	Action taken
Jeff Graham, Port Heiden, Alaska	Do.
Fred A. Kings, Anchorage, Alaska	Do.
Keith C. Koontz, Savoonga, St. Lawrence Island, Alaska	Approved.
Roscoe Harrell, Whittier, Alaska	Denied.
David Andrews, Kodiak, Alaska	Do.
Frontier Tanning Co., Anchorage, Alaska	Do.
The Fouke Co., Greenville, S.C.	Approved.
Pleasant Point Passamaquoddy Tribal Council, Perry, Maine	No Action.

[FR Doc.74-14256 Filed 6-21-74;8:45 am]



Just Released

CODE OF FEDERAL REGULATIONS

(Revised as of April 1, 1974)

Title 18—Conservation of Power and Water Resources (Parts 1-149)-----	\$3. 80
Title 21—Food and Drugs (Parts 600-1299)-----	1. 75
Title 25—Indians -----	3. 60
Title 26—Internal Revenue (Part 600-end)-----	1. 40

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